bridging realities

a response to spatial inequality in Mumbai & Nalasopara
bridging realities

a response to spatial inequality in Mumbai and Nalasopara
01
background
India is projected to be the 2nd largest economy in the world by 2050, being the growth engine of the global economy in terms of GDP.
In 2017, India’s richest 1% held 58% of the country’s total wealth, while in 2018 the top 1% holds 73% of the wealth.
Spatial Inequality in Mumbai

“Two-thirds of the city’s (Bombay) residents are crowded into just 5 percent of the total area, while the richer or more rent-protected one-third monopolize the remaining 95 percent.”

Suketu Mehta
Maximum City: Bombay Lost and Found
The Development Plans for Mumbai is criticized as “a form of ‘planned’ exclusion of the poor and the middle class”, which have failed to address issues of slums and affordable housing.
Vasai-Virar and Nalasopara
East West Divide in Nalasopara
East West Divide in Nalasopara
East West Divide in Nalasopara

Cooperative Housing

Baulti chawls

Gated communities

*Handshake* chawls
East West Divide in Nalasopara

Open spaces in Gated Communities

Open spaces in Handshake Chawls
Conspicuous Separation
Ghettoization

- Water Supply
- Security
- Education
- Job Opportunities
- Connections to the City

Resources made unavailable due to ghettoization
Ghettoization

Water Supply
Security
Education
Job Opportunities
Connections to the City

Social Tension
Insecurity
Violence
Psychological Disorders

Resources made unavailable due to ghettoization

Results of Exclusion
Lack of Decision Making Power among People

Slum Rehabilitation Authority (SRA) displaced Resident

- displaced to periphery, lack of connections
- lack of maintainence of new building
- does not feel safe
- lack of water supply
- unemployment

Baithi Chawl Resident

- Baithi Chawl under the threat of being redeveloped into handshake chawl
- builders did not provide the promised compensation and temporary housing
- refuses to move because of lack of water supply in handshake chawls

Sri Prastha Cooperative Housing Resident

- Buildings falling apart
- Residents seriously injured by falling slab
- There has been ongoing rumours of possible redevelopment for the past decade but nothing has happened
The widening of income gap leads to spatial inequality in Mumbai and Nalasopara, which contributes to the unfairness in accessibility to open space, harsh separation across income groups, ghettoization of marginalized groups, and the lack of decision-making power among people, which all together denies people to The Right to the City.
“Right to the City”

(1) the right to appropriate urban space
(2) the right to participate centrally in the production of urban space
(3) the right to diversity

proposed by Henri Lefebvre and summarized by Purcell and Duke.
The project therefore aims to

Create **accessible and meaningful urban spaces** across income groups,

**soften boundaries** among income groups while having appropriate borders,

provide oppurtunities for **people participation** in the development process,

and accommodate and encourage **diversity**, 

which all together

**bring The Right to the City to the People**
Research Question

How can housing and urban design allow **equal participation** in the development of the built environment and **equal access to open spaces** across income groups?

<table>
<thead>
<tr>
<th>Spatial Level:</th>
<th>Organizational Level:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the challenges and strategies for mixed income and participatory housing?</td>
<td>4. What is the appropriate level of intervention for the government, sponsor, and user?</td>
</tr>
<tr>
<td>2. What are the aspirations of different income groups?</td>
<td>5. What are the models of participatory design?</td>
</tr>
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<td></td>
</tr>
</tbody>
</table>
02 spatial research
1. What are the challenges and strategies for mixed income and participatory housing?
1. Challenges and Strategies for Mixed Income Housing

**Clustering Strategies of Income Groups**

**Completely Separated**
- Hard to form social ties
- Harsh separation and exclusion

**Fully Integrated**
- Difficulties in building management due to different aspirations
- Inequality in decision making power
- Hard to attract High Income Groups

**Clustered with “Zones of Exchanges”**
- Borders as zones of exchanges, as spaces for encounter to encourage formation of social capital

---

“Borders are porous edges... boundary is an edge where things end... Whereas the border is an edge where different groups interact... an active zone of exchange.”

Richard Sennett
*Building and Dwelling: Ethics for the City*
1. Challenges and Strategies for Mixed Income Housing

*Case Studies - Aranya Township, Indore, India - Balkrishna Doshi*

- Series of open spaces that lead to center
- Zoning of income groups: HIG and MIG on the periphery, LIG towards center
- Kits and Parts for users to choose from
1. Challenges and Strategies for Mixed Income Housing

Case Studies - Molenvliet, Papendrecht, the Netherlands - Frans van der Werf (Open Building Movement)

Open Building Movement:
Levels of Intervention and Control

“Diversity Within Wholeness”
2. What are the aspirations of different income groups?
2. Aspirations of Income Groups

Typological and Literature References

**EWS & LIG**
- Baithi Chawl, Nalasopara

**Lower MIG**
- New Frontiers & Challenges for Affordable Housing Provision in India
  - Urmi Sengupta
- Gated Communities, Nalasopara
- Sriprastha

**Upper MIG**
- Global City, Virar
  - Rustomjee
- Maximum City - Bombay
  - Suketu Mehta
- Kanchajunga Apartments, Mumbai
  - Charles Correa
2. Aspirations of Income Groups

Pattern of Inhabitation: Income Generation

- **EWS / LIG**
  - Intimate Working and Living Space
  - Home Production by Women

- **Lower MIG**
  - White Collar Office Jobs
  - Work from Home Professionals

- **Upper MIG**
  - Panoramic View

Pattern of Inhabitation: Domestic Spaces

- **EWS / LIG**
  - Facing Kitchens for Surveillance

- **Lower MIG**
  - Drying Laundry
  - Renting out Extra Space for Paying Guest

- **Upper MIG**
  - Hire Domestic Cook / Housemaids
  - Preparing Food Together

Domestic Activities

- **Eating together**
  - Activity: Eating supper
  - Element: Eating utensils, floor

- **Watching TV**
  - Activity: Watching television
  - Element: Television

- **Drying washing**
  - Activity: Hanging clothes
  - Element: Window grills, corridors

- **Drying Laundry**
  - Activity: Water usage
  - Element: Numerous buckets

- **Wet zone water buckets**
  - Activity: Water usage
  - Element: Numerous buckets

- **Living in Proximity to Relatives / Surrogate Family**

- **Facing Kitchens for Surveillance**

- **Preparing Food Together**

- **Panoramic View**
2. Aspirations of Income Groups

Pattern of Inhabitation: Social Spaces and Amenities

<table>
<thead>
<tr>
<th>EWS / LIG</th>
<th>Lower MIG</th>
<th>Upper MIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Festival Spaces</td>
<td>Intimate Communal Spaces</td>
<td>Defined Amenities</td>
</tr>
<tr>
<td>Private Playground Area</td>
<td>Undefined open space for flexible use</td>
<td>Curtains to Separate Private and Communal Spaces</td>
</tr>
</tbody>
</table>

Pattern of Inhabitation: Borders

<table>
<thead>
<tr>
<th>EWS / LIG</th>
<th>Lower MIG</th>
<th>Upper MIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claiming Space with Decorated Entrances</td>
<td>Compound wall for privacy</td>
<td>Plinth</td>
</tr>
</tbody>
</table>
### 2. Aspirations of Income Groups

**Aspiration of Income Groups Summary**

<table>
<thead>
<tr>
<th>LIG and EWS</th>
<th>Lower MIG</th>
<th>Upper MIG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban</strong></td>
<td><strong>Building</strong></td>
<td><strong>Unit</strong></td>
</tr>
<tr>
<td>Open Spaces For Celebrations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metro Line</td>
<td>Safe Social Spaces for women and children</td>
<td></td>
</tr>
<tr>
<td>Live in proximity to relatives / surrogate family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-live spaces</td>
<td>Safe private open space for children</td>
<td></td>
</tr>
<tr>
<td>Live closer to Ground floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live closer to Ground floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women to be able to have side job at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzanine Floor</td>
<td>Flexible configuration</td>
<td></td>
</tr>
<tr>
<td>Mezzanine Floor</td>
<td>Flexible configuration</td>
<td></td>
</tr>
<tr>
<td>Income Generation Opportunities</td>
<td>Income Generation Opportunities</td>
<td></td>
</tr>
<tr>
<td>Preserve existing connections and make new connections</td>
<td>Preserve existing connections and make new connections</td>
<td></td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Close to amenities, shopping etc.</td>
<td>Higher level of privacy, private staircore and unit entrance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wide Terraces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High overlooking unit with picturesque view</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“World-class” Education and Infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lease extra apartments</td>
<td></td>
</tr>
</tbody>
</table>
3. What is the suitable housing configuration to encourage social interaction while keeping appropriate borders?
3. Building Configuration Studies

Inward Facing

- Baithi Chawls
- Extruded "Handshake" Chawls
- Gated Communities

Outward Facing

- Sriprastha
- MHADA Housing Proposal
- UDAAN, Sameep Padora

Facing Bothways

Negligence of the edge in inward facing buildings
03
building design
Location: Sriprastha
Location: Sriprastha
Location: Sriprastha

Issues and Threats

1. Building is Falling Apart
2. Uncertain Future
3. Reluctance to Invest in Maintenance
4. Concentration of Single Income Tier
5. High Vacancy Rate
6. Lack of Opportunities for Income Generation
7. Lack of Hierarchy and Diversity in Open Spaces
Location: Sriprastha

Future Scenarios

Current Situation

Future Scenario 1: nothing takes place

Future Scenario 2: rumoured development takes place

Proposed Scenario: Typological Mix
Location: Sriprastha

**Strength and Opportunities**

1. Existing Grid Structure
2. Porous Urban Fabric
3. Access to Lower Middle Income Group
4. Existing Connection with People from Nalasopara East
5. Mixed Religious Communities
6. Existing Structure of Housing Cooperative Societies
Building Strategy

Typological Mix

Low rise - Chain Typology
Mid rise - Slab Typology
High rise - Tower Typology
Building Strategy

*Type 1: Low-rise - Chain Typology*
Building Strategy

Type 1: Low-rise - Chain

Low-rise - Typical floor plan
Building Strategy

Type 1: Low-rise - Chain

Middle component variations
Building Strategy

Type 1: Low-rise - Chain
Building Strategy

Type 1: Low-rise - Chain

Low-rise - Elevation
Building Strategy

Type 1: Low-rise - Chain
Building Strategy

Type 1: Low-rise - Chain
Building Strategy

Type 1: Low-rise - Chain
Building Strategy

Type 1: Low-rise - Chain

Entirely living
43m² living space
(++) mezzanine

Restaurant • living
15m² restaurant
• 6m² kitchen
• 16m² living space
(++) mezzanine

Living & leased
- 15m² production space
- 22m² living space
(++) mezzanine

Production • retail
15m² retail space
• 22m² production space
(++) mezzanine

Production
39m² production space
(++) mezzanine

Living • community
Day:
16m² community space
• 27m² living space

Night:
43m² living space
(++) mezzanine

GF unit variations
Building Strategy

Type 2: Mid-rise - Slab Typology
Building Strategy

Type 2: Mid-rise - Slab

Mid-rise - Typical floor plan
Building Strategy

Type 2: Mid rise - Slab

Corner component variations
Building Strategy

Type 2: Mid-rise - Slab
Building Strategy

*Type 2: Mid-rise - Slab*
Building Strategy

Type 2: Mid-rise - Slab

Mid-rise - Elevation
Building Strategy

Type 2: Mid-rise - Slab
Building Strategy

Type 3: High-rise - Tower
Building Strategy

Type 3: High-rise - Tower

High-rise - Typical Floor
Building Strategy

Type 3: High-rise - Tower
Building Strategy

Type 3: High-rise - Tower

High-rise - 1F Podium Plan
Building Strategy

Type 3: High-rise - Tower
Building Strategy

Type 3: High-rise - Tower
Building Strategy

Type 3: High-rise - Tower

High-rise - GF Plan
Typology Comparison

Spatial Aspects

- Sri Prastha
  - no elevator
  - no common space among units
  - dark circulation spaces

- Low rise - Chain Typology
  - no elevator
  - each 2-4 units share unprogrammed open space
  - shared courtyard space and multi-purpose hall on GF
  - facing kitchens among neighbours for security surveillance
  - flexible Work-Live units on GF
  - opportunity to add mezzanine

- Mid rise - Slab Typology
  - with elevator
  - each 2-3 units share unprogrammed open space
  - shared courtyard space and multi-purpose hall on GF
  - larger threshold area before entering unit
  - flexible Work-Live units on GF
  - multiple ducts for flexible unit configuration

- High rise - Tower Typology
  - with elevator
  - each unit has its own entrance
  - each unit has its own balcony
  - panoramic view from the top
  - GF is completely for commercial or amenities
  - Private communal podium on 1F
Typology Comparison

Unit Sizes

- **0m²**
- **10m²**
- **20m²**
- **30m²**
- **40m²**
- **50m²**
- **60m²**
- **70m²**

- **Sri Prastha**
- **Low Rise - Chain**
- **Mid Rise - Slab**
- **High-rise - Tower**
Typology Comparison

**Society Figures**

**Sri Prastha**
- Number of dwelling per two buildings: 36
- Unit sizes: 35 - 48 m²
- Plot FSI: 1.4
- Storeys: 3
- Target Group: Lower MIG

**Low rise - Chain Typology**
- Number of dwelling per two buildings: 38 - 80 (depending on unit combination)
- Unit sizes: 22-50 m²
- Plot FSI: 2.64
- Storeys: 4 (with mezzanine)
- Target Group: EWS, LIG, Lower MIG

**Mid rise - Slab Typology**
- Number of dwelling per two buildings: 76 - 104 (depending on unit combination)
- Unit sizes: 31-57 m²
- Plot FSI: 3.5
- Storeys: 7
- Target Group: LIG, Lower MIG, Middle MIG

**High rise - Tower Typology**
- Number of dwelling per two buildings: 40 (+5 commercial spaces)
- Unit sizes: 54-68 m²
- Plot FSI: 2.5
- Storeys: 10-12
- Target Group: Middle MIG, Upper MIG
04 building technology
Construction & Materiality

Roof
1. corrugated bamboo sheet
2. bamboo roof trusses and purlins
3. concrete ring beam
4. concrete roof gutter
5. modular water tank
6. rainwater downpipe

Building
7. concrete skeleton
8. filler slab
9. stabilizing walls (fly ash brick or AAC blocks)
10. fly ash brick walls with jali as stabilizing walls

Facade
11. flexible user defined facade system
12. removable panels for pipe shaft

Ground
13. modular water tank
14. concrete foundation slab
## Structure

### Comparison of Common Masonry Types in India

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Density</th>
<th>Availability</th>
<th>Cost and Cost Benefits</th>
<th>Finishing</th>
<th>Environmental Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red Clay Bricks</strong></td>
<td>Clay</td>
<td>1800 kg/mm³</td>
<td>High, Locally Available</td>
<td>Rs 3200/m³, overall cost is more, requires most mortar</td>
<td>Can be exposed</td>
</tr>
<tr>
<td><strong>Fly Ash Bricks</strong></td>
<td>Fly Ash, Cement, Sand/Stone dust</td>
<td>2200 kg/mm³</td>
<td>High, Locally Available</td>
<td>Rs 3100/m³, overall cost is more, requires most mortar</td>
<td>Can be exposed</td>
</tr>
<tr>
<td><strong>AAC Blocks</strong></td>
<td>Cement, Fly ash, Aluminium Powder, Air Entraining Agent (for lightweight purposes)</td>
<td>550-650 kg/mm³</td>
<td>Highly Available in Tier I &amp; II Cities where High-Rise construction occurs</td>
<td>Rs 4200/m³, Individual block is expensive but overall cost is low, consumes less mortar, cheaper in bulk</td>
<td>Has to be plastered due to high porosity</td>
</tr>
<tr>
<td><strong>CLC Blocks</strong></td>
<td>Cement, Fly ash, Foaming Agent (for lightweight purposes)</td>
<td>800kg/mm³</td>
<td>Less Available</td>
<td>Rs 4000/m³, Individual block is expensive but overall cost is low, consumes less mortar, cheaper in bulk</td>
<td>Has to be plastered due to high porosity</td>
</tr>
</tbody>
</table>
Structure

*Stabalizing Wall*

- **Fly ash brick - Rat trap bond**
  Stabalizing elements in Low rise Typology

- **Fly ash brick - Reinforced Rat trap bond**
  Stabalizing elements on the facade in Mid-rise & High-rise Typology

- **AAC Blocks**
  Internal stabalizing elements in Mid-rise & High-rise Typology

---

*Rat Trap bond*

- Requires approximately 25% less bricks and 40% less mortar than traditional masonry bond
- Cavity induced in wall provides better thermal insulation, resulting in cooler interiors during summer and warmer interiors during winter.
Structure

Filler Slab
Construction & Materiality

Building section 1:50
Construction & Materiality

Roof 1:20
Construction & Materiality

Roof Details 1:5

Concrete gutter and bamboo roof connection

Gutter strainer and downspout

Brick ballustrade
Construction & Materiality

Ground 1:20

- concrete sill
- RC claypot filler slab
- operable palmyra louver window
- RC mezzanine claypot filler slab
- 110mm fly ash brick wall
- modular water tank
- concrete basement tank
- 150mm screed 2% slope
- recycled concrete paver
- sand layer
- soil
- concrete drain grating
- concrete floor
- RC floor
- ceramic floor tile
- 1400mm Low rise
- No mezzanine in Mid-rise & High-rise
- 1500mm Low rise
- 2500mm Mid-rise & High-rise
- 3050mm High-rise
- 250mm 230mm 380mm 900mm 1000mm 2500mm
Water Management

Concrete roof gutter

Temporary water storage for overflow

Transportation of water through toilet pipe shaft

Rainwater storage in foundation tank

Provision of water to individual units for grey water use

Provision of Water from Foundation Tank
Construction & Materiality

*Internal Facade*

Low-rise internal facade

Mid-rise and high-rise internal facade

Materials:
- Palmyra louvers
- Wood frame
- Fly ash brick
- Reinforced concrete
Construction & Materiality

ExternalFacade 1:20

Low-rise external facade

Mid-rise and high-rise external facade

1:5 facade details

- palm tree louvers
- coir ply
- wood frame
- fly ash brick
- reinforced concrete
Construction & Materiality

External Facade Plan 1:20
Construction and Materiality

*External Facade Elevation 1:20 - materials*
Construction and Materiality

*External Facade Elevation 1:20 - colour scheme*
Construction and Materiality

Facade Component Catalogue
Construction and Materiality

Facade Component Catalogue
Construction and Materiality

Unit section 1:20

Building Structure
1. RC Column  230 x 230 mm
2. RC Embedded beam  230 x 400 mm
3. Claypot Fiber Slab  350mm
4. RC Embedded mezzanine sub-beam  200 x 200 mm

Facade
5. Drip edge
6. Main timber frame
7. Interchangable timber window frame
8. Adjustable palmyra louver
9. Accordion insect screen
10. Awning window shutter
11. Chain
12. Recycled steel bar as drying rack / security grid
13. Concrete window sill

Interior
14. Fly ash brick partition wall  130mm
15. plaster / tile wall finish
16. Screed
17. ceramic floor tile

Possible Additions
18. Bamboo deck

Bridging Realities  Building Technology
Construction and Materiality

Potential Recycled Materials from demolished buildings in Sri Prastha

- Concrete pavers
- Laundry drying grill
- Brick as filler material
Ventilation

Urban and Building

Low-rise - Chain

Mid-rise - Slab

High-rise - Tower
Ventilation

Unit

Cross ventilation through units
Ventilation

Facade

Day

Night
Sun shading
05
urban design & operational model
4. What is the appropriate level of intervention for the government, sponsor, and user?

5. What are the models of participatory design?
Levels of Intervention and Participation

Example: Open Building

Ideal Levels of Intervention and Control in the “Open Building” Concept by Frans van der Werf
Whose participation: whose decision and whose action?

<table>
<thead>
<tr>
<th>SPONSORS</th>
<th>USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHO PROVIDES?</strong></td>
<td></td>
</tr>
<tr>
<td>Sponsors decide and sponsors provide</td>
<td>Sponsors decide and users provide</td>
</tr>
<tr>
<td><strong>WHO DECIDES?</strong></td>
<td></td>
</tr>
<tr>
<td>Sponsors</td>
<td>Users decide and sponsors provide</td>
</tr>
<tr>
<td>Users decide and sponsors provide</td>
<td>Users decide and users provide</td>
</tr>
</tbody>
</table>

Models of participatory design
by John Turner
Urban Strategy

Phases

- **Existing**
- **Phase 1: Development on empty plot**
- **Phase 2: Redevelopment of existing Sriprastha**
Urban Strategy - Phase 1

Public-Private Partnership - Mixed-development Cross-subsized Housing

Phase 1: Development on empty plot
Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

1. The authority provides land to be developed by private developer, with certain conditions that has to be fulfilled.
Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

2. A housing cooperative is established to act as a mediator. It consists of members appointed by the authority and members from the chawls societies.
Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

2. A housing cooperative is established to act as a mediator. It consists of members appointed by the authority and members from the chawls societies from Nallasopara East.

3. Interested Societies obtain a 75% agreement from its residents to move.
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1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

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4. The housing cooperative collects design wishes from its members and conveys them to the architect and developer.
Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

1. The authority provides land to be developed by private developer. The private developer agrees to a set of conditions.

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3. Interested Societies obtain a 75% agreement from its residents to move.

4. The housing cooperative collects design wishes from its members and convey them to the architect and developer.

5. The developer builds affordable housing and the higher end apartments that cross-subsidizes each other. The high rise apartments are sold to new high-end users.
Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

**Frame of Conditions:**
- FSI Range (depending on context)
- % of each income groups (depending on context)
- Design decisions must be undertaken in conjunction with feedback from Housing Cooperative

**PUBLIC AUTHORITY**

**PRIVATE DEVELOPER**

**ARCHITECT**

**HIGH RISE**

**MID-RISE**

**LOW RISE**

**NEW HIGH-END BUYERS**

**CHAWL DWELLERS**

**NEW LOWER MIG BUYERS**

**BOARD OF DIRECTORS**

**GENERAL BODY**

**HOUSING COOPERATIVE**

**CHAWL SOCIETIES**

**PUBLIC-PRIVATE AUTHORITY**
## Phase 1: Public-Private Partnership - Mixed-development Cross-subsized Housing

### Financing

<table>
<thead>
<tr>
<th></th>
<th>Market Price</th>
<th>Public-Private Partnership Cross-subsidized Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Price</strong></td>
<td>Rs 2,000/sqft</td>
<td>Nominal rent to Government: Rs 550/sqft</td>
</tr>
<tr>
<td><strong>Construction Cost</strong></td>
<td>Rs 20,000/sqft</td>
<td>Rs 20,000/sqft</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>Rs 40,000/sqft</td>
<td>Rs 25,500/sqft</td>
</tr>
<tr>
<td><strong>Sale price</strong></td>
<td>Sri Pratha Market Price: Rs 5,600/sqft</td>
<td>35% Upper MIG Rs 6,000/sqft 35% Lower MIG Rs 4,400/sqft 30% LIG Rs 100/sqft Average: 3,670/sqft</td>
</tr>
<tr>
<td><strong>Profit Margin by developer</strong></td>
<td>40%</td>
<td>43.9%</td>
</tr>
</tbody>
</table>

**Note:**
- Public-Private Partnership Cross-subsidized Model
- Nominal rent to Government: Rs 550/sqft
- Sri Pratha Market Price: Rs 5,600/sqft
- 35% Upper MIG Rs 6,000/sqft
- 35% Lower MIG Rs 4,400/sqft
- 30% LIG Rs 100/sqft
- Average: 3,670/sqft
Urban Strategy - Phase 2

In-situ Replacement of Existing Housing

Phase 2: Redevelopment of existing Sriprastha
Urban Strategy - Phase 2

_In-situ Replacement of Single Buildings_

- Improved building qualities
- Increases income group diversity
- Defines street edge
Urban Strategy - Phase 2

In-situ Replacement of Societies

- Improved building qualities
- Increases income group diversity
- Defines street edge
- Courtyard within society, strengthens internal relationship within cluster
- Strengthens hierarchy of in between spaces
- Ensures enough distances between buildings
Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Pratha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.
Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Prastha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

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**Diagram Description**

- **SRIPRASTHA DWELLERS**
  - Elect Board of Society
  - 75% Agreement to Replace Existing Buildings

- **BOARD OF SOCIETY**
  - Establish Community Fund
  - Apply for Financial Loans

- **FINANCIAL LOANS**
  - Profits Used to Repay

- **EXTRA UNITS SOLD TO**
  - LOW RISE MID RISE HIGH RISE

- **NEW BUILDING** Transferred

- **COMMUNITY FUND**
  - Conveys Design Wishes
  - Elect
  - Make Decision On
Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Prashta establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

3. Original residents make a collective decision on the typology of their choice.
Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Pratsha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

3. Original residents make a collective decision on the typology of their choice.

4. The decision is conveyed to the architect and local builder, who would construct the desired type.
Phase 2: In-situ Replacement of Existing Housing Societies

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5. New units are handed over to the original dwellers.
Phase 2: In-situ Replacement of Existing Housing Societies

1. Original residents in Sri Prastha establish a society board and achieve a 75% agreement internally to replace existing buildings in the society.

2. A community fund is established within the society, while the society tries to secure loans.

3. Original residents make a collective decision on the typology of their choice.

4. The decision is conveyed to the architect and local builder, who would construct the desired type.

5. New units are handed over to the original dwellers.

6. Extra units are sold to new buyers, and the profit is used to repay the loans and the community fund.
Urban Strategy - Phase 2

Replacement of Existing Sri Prastha
Urban Strategy - Phase 2

Possible Scenarios of Replacement
Urban Strategy - Phase 2

Possible Scenarios of Replacement
Urban Strategy - Phase 2

Possible Scenarios of Replacement
Urban Strategy - Phase 3

Expanding the project
06 impact
Urban

Old and New Comparison: Figures

Existing Sri Prastha

Units per hectare: 180

Redeveloped Sri Prastha

Units per hectare:
- if 10% choose to redevelop: 196
- if 30% choose to redevelop: 214
- if 60% choose to redevelop: 258
- if 90% choose to redevelop: 312

New Plot

Units per hectare: 250-296
Urban

Old and New Comparison: Spatial Qualities

Current
Homogeneous and meaningless open spaces

Potential Future
- Defines Street on the edge of the society
- Defines courtyard within the society
- Activation of the corner, creates diverse in between spaces, converting leftover lane into community spine
Building Corner - Before
Building Corner - 1 Society Replaced
Building Corner - 2 Societies Replaced
Building Corner - 3 Societies Replaced
Building Corner - 4 Societies Replaced
Between societies - Existing
Between existing Sriprastha buildings and new Societies
Between new Societies
Between new Societies
Society Courtyard - Existing
Society Courtyard - Low rise
Society Courtyard - Mid-rise
Society 1F Podium - High-rise
Ground Floor Public Void Deck - High-rise
Hierarchy of Open Spaces in New Plot

1. Shared Terrace

Shared terrace: 2-4 households
Hierarchy of Open Spaces in New Plot

2. Rooftop Terrace

Rooftop terrace: 10-20 households
Hierarchy of Open Spaces in New Plot

3. Courtyard

Shared courtyard:
40–80 households
Hierarchy of Open Spaces in New Plot

Square: approximately 200 households
Hierarchy of Open Spaces in New Plot

5. Community Spine

Community spine: approximately 600 households
Hierarchy of Open Spaces in New Plot

6. Urban Center

Community spine: approximately 1800 households
Threshold

Mid-rise Threshold Space
Threshold

High-rise threshold space:
- 1 household

- 2 BHK 68m² (+6.2m² balcony)
- 1 BHK 54m² (+5.3m² balcony)

4600 3000 4100
3320 2400 3000 2400 4570

High-rise Threshold Space
Amenities

Primary Amenities
Every high-rise society will be required to provide amenities on the Ground Floor. Therefore the primary amenities on the new plot will be concentrated in the urban center, while in the existing Sri Prastha it will be at societies that have chosen the high-rise typology.

Secondary Amenities
The secondary amenities would occur in a more organic manner, i.e. within the work-live units of the low and mid-rise typology.

Tertiary Amenities
The tertiary amenities would occur within the society. Since the buildings consist of concrete skeletons, residents could easily transform the rooftop terrace or the multi-purpose hall on the ground floor into the required amenities.
Narrative: The Chronicle of Narvel's Home

Newly Built
Narrative: The Chronicle of Narvel's Home
Narrative: The Chronicle of Narvel's Home
Narrative: The Chronicle of Narvel's Home
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07 reflection
Model as a communication tool
Standardization ↔ Diversification
Standardization  ↔  Diversification

1. Similar appearance
   - Same Palette of Materials
   - Same Facade Module and Components

2. Same Construction Method
   - Locally available construction techniques and materials
   - Same water management method

3. Similar Logic in Building Configuration
   - All units are corner units
   - Unit entrance are always ventilated

4. Similar Consideration for Activation of GF
   - Raised floor and steps
1. Typological Mix based on aspirations
2. Flexible options for unit layout
3. Room for addition / alteration
4. Buildings that could be extended / shortened to respond to different site conditions
Kuala Lumpur  |  Shanghai  |  Hong Kong  |  Mumbai

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namaste!