

# MODULAR HOUSING SCHEME

for a public housing provider in a low-income locality, MAHARASHTRA

Initial problem statement: how to provide affordable and modular housing in Bhiwandi?

## DEFINED PROBLEM STATEMENT

How to provide **affordable, safe and spacious** housing for **low-income labour/workers** through **modular solutions**?



### METHODS USED

- Challenge framing
- Secondary research  
*learning the broader context*
- Team building
- Brainstorming
- Observation
- Interviews
- Creating personas  
*creating fictional characters who represent the target group*
- Prototyping
- Sketching, drawing and modelling
- Collage



### LEARNING OUTCOMES

- how to contribute in a multidisciplinary and diverse team environment
- unlearning solution-oriented approaches and converging our minds to problem complexity and systems thinking
- learning new and different perspectives



### LIMITATIONS FACED

#### Project work

- Establishing and setting priorities
- Late field visit in relation to project schedule
- Limited time for team building
- Time constraint for understanding the problem context and defining a solution neutral problem statement

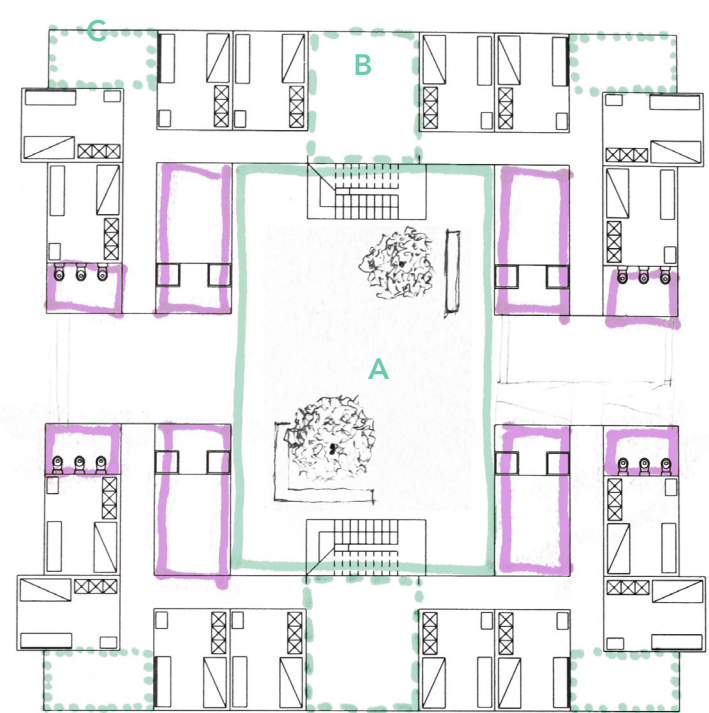
#### Interviews

- Trust issues, limited time for building trust
- Limited perspective from interviews

## PROPOSAL

a modular housing scheme for Bhiwandi with key focus points in **flexibility** and **affordability** through...

### 1. Shared spaces and facilities with modular flexibility



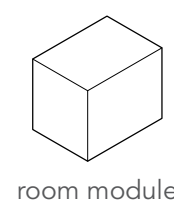
#### Scales of community spaces

- A public courtyard for all
- B common area for two housing units
- C veranda for one housing unit

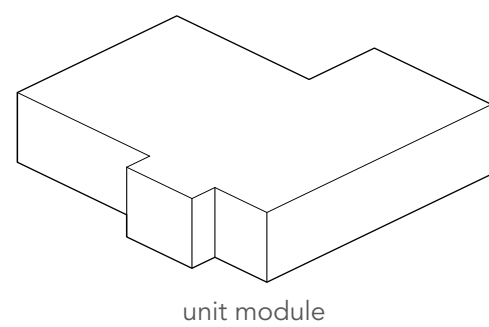
#### Shared facilities

- cooking and washing facilities

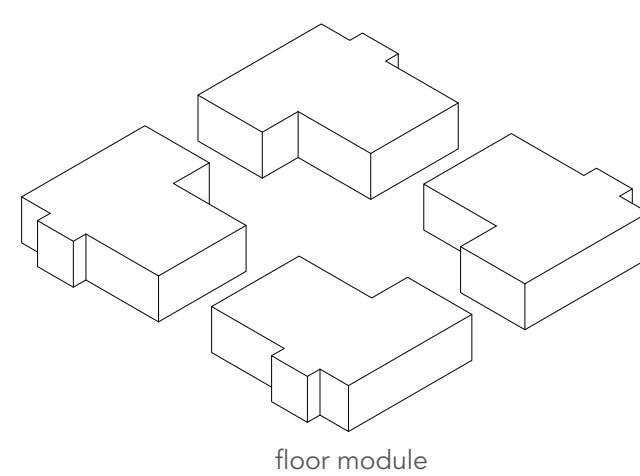
#### Modules



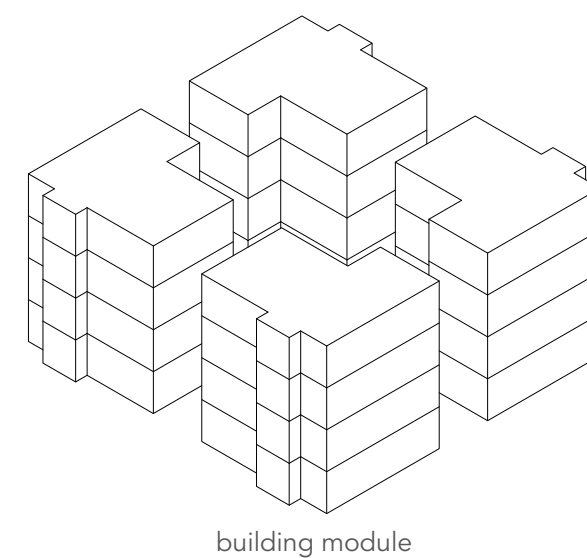
room module



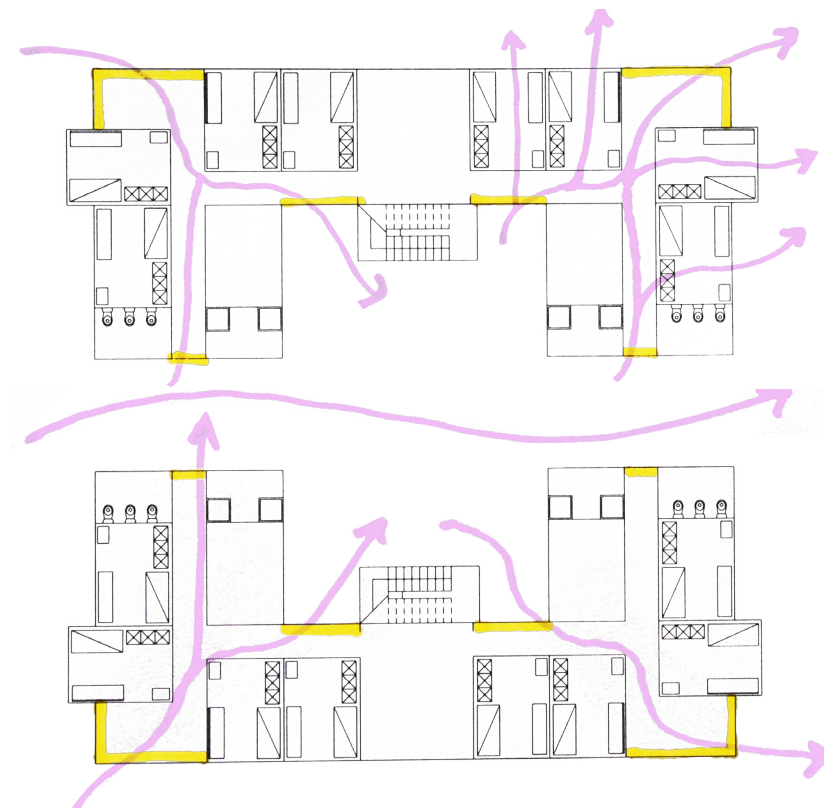
unit module



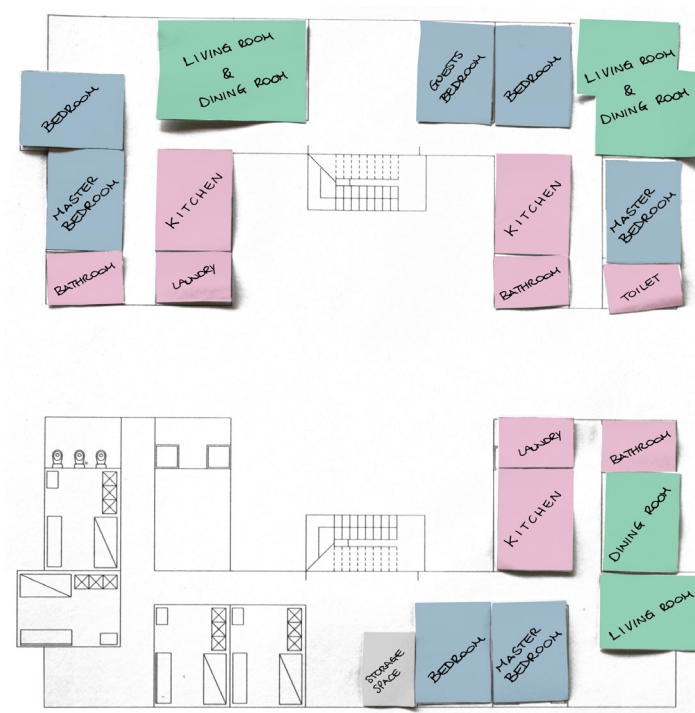
floor module



building module



Prevailing east-west wind flows and breathable walls for ventilation



Modular flexibility over time: different configuration possibilities



## TEAM

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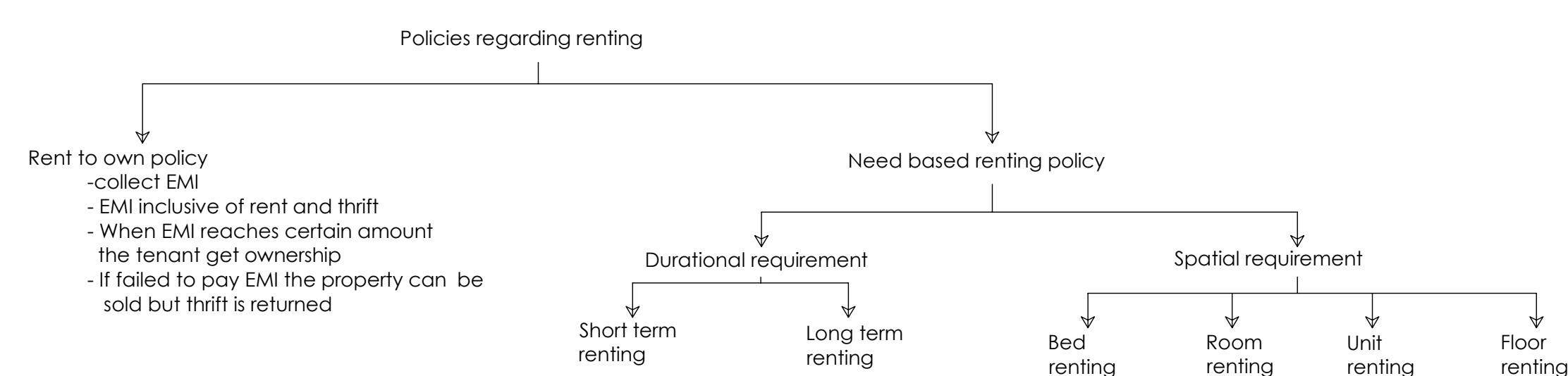
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### 2. Smart waste management and energy systems

- Facilities for recycling
- Earning opportunities from energy production
  - Small-scale biogas production
  - Solar PV system integrated to the grid
- Energy saving
  - Smart switch-off systems
  - Solar water heating
  - Efficient lights and maximising daylight usage

### 3. Policies and regulations



South Asia

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