Graduation Report
Architecture as a participatory trigger

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1. Introduction

Home is not only a roof or a room; it is the ability to shape one's surroundings, to leave traces of life, to belong. Even in the most fragile circumstances, amid ruins, displacement, and political uncertainty, people continue to protest when this right is threatened. In Homs, residents have repeatedly resisted reconstruction plans not because they oppose rebuilding, but because they refuse to be rebuilt without.

Almost two years after the fall of the Assad regime, reconstruction in Syria remains largely symbolic: investment fairs, speculative agreements, and grand announcements of a "new Syria" coexist with neighbourhoods still in rubble. Estimates of the cost of rebuilding vary dramatically, from the World Bank's $216 billion to the Syrian government's claim of $1 trillion. Yet little of this has translated into meaningful, community-driven recovery.

In Homs, top-down redevelopment has repeatedly collided with lived reality. Projects such as the Al-Nasr Boulevard redevelopment triggered immediate protests over displacement, lack of transparency, and the erasure of long-standing neighbourhoods. Residents compared it to Homs Dream, a notorious pre-war real-estate scheme synonymous with land seizures and forced evictions. These reactions reveal a deeper truth: reconstruction is not only about material loss, but about the right to reinscribe space, memory, and identity.

Post-disaster housing often prioritizes speed, efficiency, and prefabrication to meet urgent needs. Yet in Homs, this logic intersects with a contested question: who has the right to rebuild, and on whose terms? As Al Jazeera (2024) notes, "Rebuilding Syria requires much more than bricks and mortar, it requires repairing the social fabric that holds Syrian people together." When reconstruction produces standardized, finished units, it risks creating environments detached from lived experience, cultural practice, and everyday negotiation. (Lefebvre, 1996)

The reconstruction of Homs has repeatedly sidelined residents' ability to shape their own environment. When rebuilding becomes a top-down exercise, it erases the everyday spatial practices through which people create a sense of home.Lefebvre's "Right to the City" asserts that inhabitants must be able to modify and appropriate their environments; in Homs, this right has been repeatedly denied.

This graduation report reframes participation as a spatial condition rather than a time-limited procedure. Rather than relying on early participatory processes that are often impossible in post-conflict contexts, the project asks whether architectural form can trigger participation after occupancy through deliberate design moves. The central research question is:

How can architectural design trigger and enable community participation in post-disaster reconstruction?

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To address this, the research examines participation as spatial agency, the cultural determinants of dwelling in Syria, and architectural systems that inherently support user modification such as incremental housing, support–infill structures, courtyards, thresholds, and shared spaces. Homs is analysed as a counter-example, revealing how rigid typologies and erased thresholds suppress agency and fuel resistance.

The thesis then develops a framework of architectural triggers and time-based mechanisms that allow participation to unfold after occupancy. These principles are translated into spatial prototypes for a pilot block in Homs, embedding adaptable thresholds, extension-ready zones, shared courts, and support–infill structures that enable residents to negotiate and transform space over time. The ambition is to create a building that not only shelters but re-empowers by supporting cultural continuity and community-driven recovery in Homs and similar contexts.

Group, W. B. (2025, October 21). Syria's Post-Conflict Reconstruction Costs Estimated at $216 billion. World Bank; World Bank Group. https://www.worldbank.org/en/news/press-release/2025/10/21/syria-s-post-conflict-reconstruction-costs-estimated-at-216-billion
Tamer Qarmout. (2024, December 22). Rebuilding Syria requires much more than bricks and mortar. Al Jazeera. https://www.aljazeera.com/opinions/2024/12/22/rebuilding-syria-requires-much-more-than-bricks-and-mortar
Lefebvre, H. (1996). Writings on cities (E. Kofman & E. Lebas, Trans.). Blackwell.

Own illustration of the context of Homs Syria

2. Approach

2.1 Methodology

In order to investigate how architectural design can trigger and enable community participation in post disaster reconstruction, a qualitative design research was conducted. In this thesis, a "trigger" refers to a spatial condition or architectural system that activates agency, interaction, or adaptation without requiring formal participatory procedures.

The research begins with a literature review examining key theoretical contributions by Rapoport, Lefebvre, Oliver, Sanoff, Habraken, Turner, and Alexander and identifying spatial and architectural conditions such as flexibility, adaptability, thresholds, shared spaces, and incremental systems, that have the capacity to activate agency, collective interaction, and participation through use over time.

Following a case study analysis is conducted of two large scale redevelopment projects in Homs, Syria: Homs Dream and Boulevard al Nasr in order to ground the theoretical inquiries. These projects are examined as counter examples, focusing on how top down reconstruction strategies create architectural forms that potentially suppress participation. Using Lefebvre's concept of the Right to the City as an analytical lens, the analysis concentrates on spatial characteristics such as scale, typology, degree of fixity, absence of shared or semi public spaces, and lack of incremental capacity that limit residents' ability to gather, negotiate, adapt, and appropriate space after handover.

A set of architectural triggers are extracted from the literature review and case study analysis. These triggers form the base of the design elements, typologies, and spatial systems, that enable participation even in the absence of early community involvement. These triggers include : adaptability, incompleteness, layered control, Negotiable boundaries, shared spaces, necessity driven gathering, Temporal Oneness, Collective Management and Distributed agency.

By reframing participation as something that can be activated through architectural form, use, and adaptation over time, this methodology positions design not as a passive outcome of planning, but as a scaffold for future participation. In doing so, **the study demonstrates how architecture can reconcile optimised emergency delivery with long term agency, cultural expression, and social resilience in post conflict and post disaster contexts.**

Based on these findings, the research develops a design framework that positions participation as a spatially enabled condition, rather than a singular event. Through design developments a family of concrete modules, a plinth program arranged around a central courtyard, five stacked typologies, and detailed drawings (plans, sections, exploded axons, and façade options) are poduced that document how each trigger is instantiated in the proposal.

Simplified structural sketches and hand calculations tested stacking logic, column-beam behaviour on the triangular plot, and a 2 m cantilever rule for the housing typologies. Three physical prototypes were produced to test assembly and participatory potential: a low-fidelity staple model to confirm stacking geometry, medium-fidelity wooden typology models to explore stacking sequences and façade composition, and a 1:50 3D-printed module to verify window opening patterns and infill fit. These models were intentionally designed to be manipulable so they can serve as simple participatory tools within the plinth program for future community workshops.

2.2. Theoretical framework

Post-disaster reconstruction is typically led by speed, cost, efficiency, and logistical coordination; while these priorities address immediate shelter needs, they frequently produce standardized housing that is detached from the social, cultural, and spatial realities of affected communities. Participation must therefore be reconceptualized as a spatial condition: an enduring capacity enacted through use, adaptation, modification, and appropriation of the built environment rather than time-limited procedural mechanisms (Sanoff 2000; Sanders & Stappers 2008; Luck 2018).

Three theoretical propositions structure this reconceptualization. First, built form mediates agency: architec-

Rapoport, A. (1969). House form and culture. Prentice-Hall.
Lefebvre, H. (1996). Writings on cities (E. Kofman & E. Lebas, Trans.). Blackwell.
Oliver, P. (2006). Built to meet needs: Cultural issues in vernacular architecture. Architectural Press.
Sanoff, H. (2000). Community participation methods in design and planning. John Wiley & Sons.

tural affordances either enable or constrain resident action, and when form intentionally permits alteration, participation continues after formal processes end (Sanoff 2000; Turner 1976). Second, cultural deep structures such as family organization, privacy regimes, ritual orientations, and gendered circulation, are primary determinants of dwelling form and use; failure to accommodate these determinants produces misfit, abandonment, and costly retrofits (Rapoport 1969; Oliver 2006; Barakat 2003; Davidson et al. 2007). Third, space and power are co-constitutive: standardized, top-down typologies produce abstract space and alienation, whereas spatial systems that distribute control and institutionalize negotiation restore agency and support social cohesion (Lefebvre 1996; Rapoport 1969).

From these propositions a set of spatial and socio-technical triggers emerges as central to enabling participation: incompleteness, adaptability, shared spaces, collective management, necessity-driven gathering, temporal openness, negotiable boundaries, and distributed agency. These triggers operate across morphological, material, and institutional dimensions. While morphological devices such as courtyards, thresholds, extension bays create opportunities for negotiation and personalization; material and construction logics determine the feasibility of resident modification converting spatial potential into realized adaptations (Habraken 1972; Turner 1968; Alexander et al. 1977; Kendall & Teicher 2000; Aravena & Iacobelli 2013). The theoretical claim is that participation can be produced through deliberate design choices that align typology, materiality, and delivery systems with cultural practices and capacities.

2.2 Design framework

The design framework turns the theory into practical steps: for each trigger (e.g., incompleteness, shared spaces) it names the building type, the concrete design moves to make it happen, and the supports (toolkits, finance, governance) needed to activate it.

The objective of the design is to guarantee structural safety and basic services while preserving meaningful choices for residents. In order to achieve this objective the final product deliver a serviced structural nucleus (roof, foundations, wet core, primary services) sized and detailed to accept incremental infill; intentionally defer non-essential finishes and façades to resident completion (Turner 1976; Aravena & Iacobelli 2013).

Table 1 Trigger to Typology to Design action

Trigger	Typology	Design action
Incompleteness	Core-and-shell; half-house	Providing unfinished bays and façades; documenting extension logic for residents. (Turner 1976; Aravena & Iacobelli 2013)
Adaptability	Flexible grids; non-load-bearing partitions	Use modular spans and partition systems that permit reconfiguration without structural intervention. (Habraken 1972; Turner 1968)
Shared spaces	Courtyards; plinths; multi-use hubs	Design central courts and plinth programs to host daily social activities and cultural practices. (Alexander et al. 1977)
Collective management	Spatial anchors for stewardship	Provide storerooms, defined maintenance thresholds, and visible loci for collective decision-making. (Kendall & Teicher 2000)
Necessity-driven gathering	Water points; communal cooking/washing nodes	Locate essential services to generate repeated co-presence and informal governance. (Rapoport 1969; Alexander et al. 1977)
Temporal opennes	Phased delivery; staged infill	Legitimize staged completion as a design strategy and document pathways for safe incremental work. (Habraken 1972; Turner 1976)
Negotiable boundaries	Verandas; iwans; semi-open rooms	Provide deep thresholds and semi-open spaces that mediate public/private relations and allow cultural calibration. (Rapoport 1969; Oliver 2006)

Habraken, N. J. (1972). Supports: An alternative to mass housing. Architectural Press.
Turner, J. F. C. (1968). Housing priorities, settlement patterns, and urban development in modernizing countries. Journal of the American Institute of Planners, 354–363.
Alexander, C., Ishikawa, S., & Silverstein, M. (1977). A pattern language: Towns, buildings, construction. Oxford University Press.

3. Results

This chapter presents the design outcomes produced for the graduation project and links each outcome to the theoretical triggers and methods used. The results are organised around the project's core concept and the principal design outputs: plinth logic and program, module catalogue and typologies, stacking and façade strategies, physical prototypes as participatory tools, a concise climate response, and schematic technical validation.

3.1. Concept

The design is founded on a single testable concept: a durable plinth that provides a serviced structural nucleus and a family of stackable modules that enable incremental, resident-led completion. Site rules derived from the triangular pilot plot and the 12 m house span produce a primary grid of 7.2 m × 12 m with triangular offsets and a central hexagonal courtyard. These geometric decisions inform Phase 1 (plinth structure) and Phase 2 (plinth program) and determine windcatcher placement, quieter façades, and the location of extension-ready bays. The concept operationalises the theoretical triggers, incompleteness, negotiable thresholds, shared spaces, and distributed agency as explicit design rules.

The resolved 7.2 m × 12 m module rhythm, triangular offsets, central hexagonal courtyard with fountain, two external staircases and the 4 m (south) / 1.5 m (west) setbacks are not only geometric decisions but explicit operationalisations of the theoretical triggers established in Chapter 3. Each design move maps directly to a literature precedent and theoretical claim:

Incompleteness (Turner; Lefebvre) Turner's incremental housing and Lefebvre's right to transform space justify leaving extension-ready bays and deferred façade infill: the design intentionally produces unfinished thresholds so residents can complete and personalise dwellings over time, converting emergency delivery into long-term agency.

Layered control / Support–Infill (Habraken). The durable plinth and stackable support modules implement Habraken's separation of support and infill: a long-life structural/service layer legitimises resident-driven interior and façade interventions while reducing post-occupancy conflict.

Adaptability (Turner; Habraken) Adaptability is the explicit extension of incompleteness and layered control: the design not only permits but anticipates change. Turner's sequencing logic supports phased household completion; Habraken's support layer enables diverse infill strategies; vernacular courtyard/windcatcher practices demonstrate how climatic adaptability can be embedded in form. The pilot's standardized module rules, deferred façade systems and prototype toolkit together constitute a practical adaptability strategy: residents can adapt spatial, climatic and material responses over time without compromising structural safety.

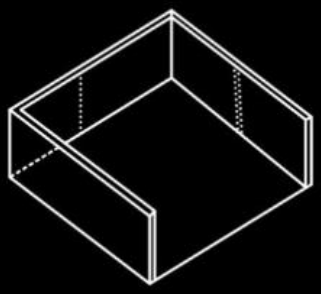
Shared spaces and social condensers (Alexander et al.). The hexagonal courtyard, fountain and plinth program (governance, cultural, care, learning, economic stalls) follow Alexander's idea of social condensers: concentrated, shaded, ventilated public space that produces repeated co-presence and everyday stewardship.

Negotiable thresholds and forced encounters (Lefebvre; participatory design literature). External staircases, stair landings and setbacks are designed as visible thresholds that choreograph movement and create encounter nodes where negotiation and informal governance can occur—directly enacting Lefebvre's emphasis on the production of social space.

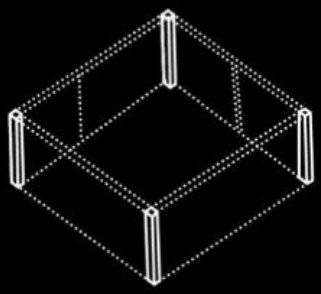
Distributed agency and participatory prototyping (participatory design theory). The module catalogue, stacking rules and manipulable prototypes operationalise distributed agency: residents are given tools (physical models, rulebooks) to rehearse, negotiate and enact change, consistent with participatory design methods that privilege co-production over top-down prescription.

Design principles sketch

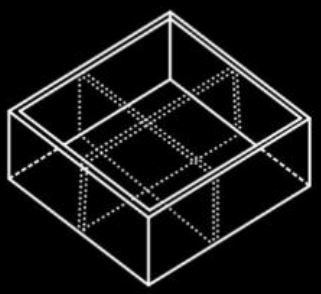
Incompleteness



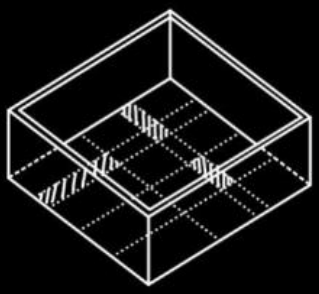
Layered control



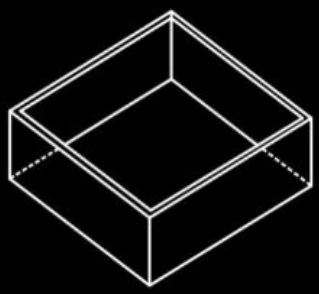
Adaptability



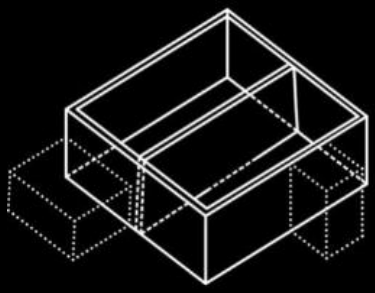
Negotiable thresholds



Shared spaces

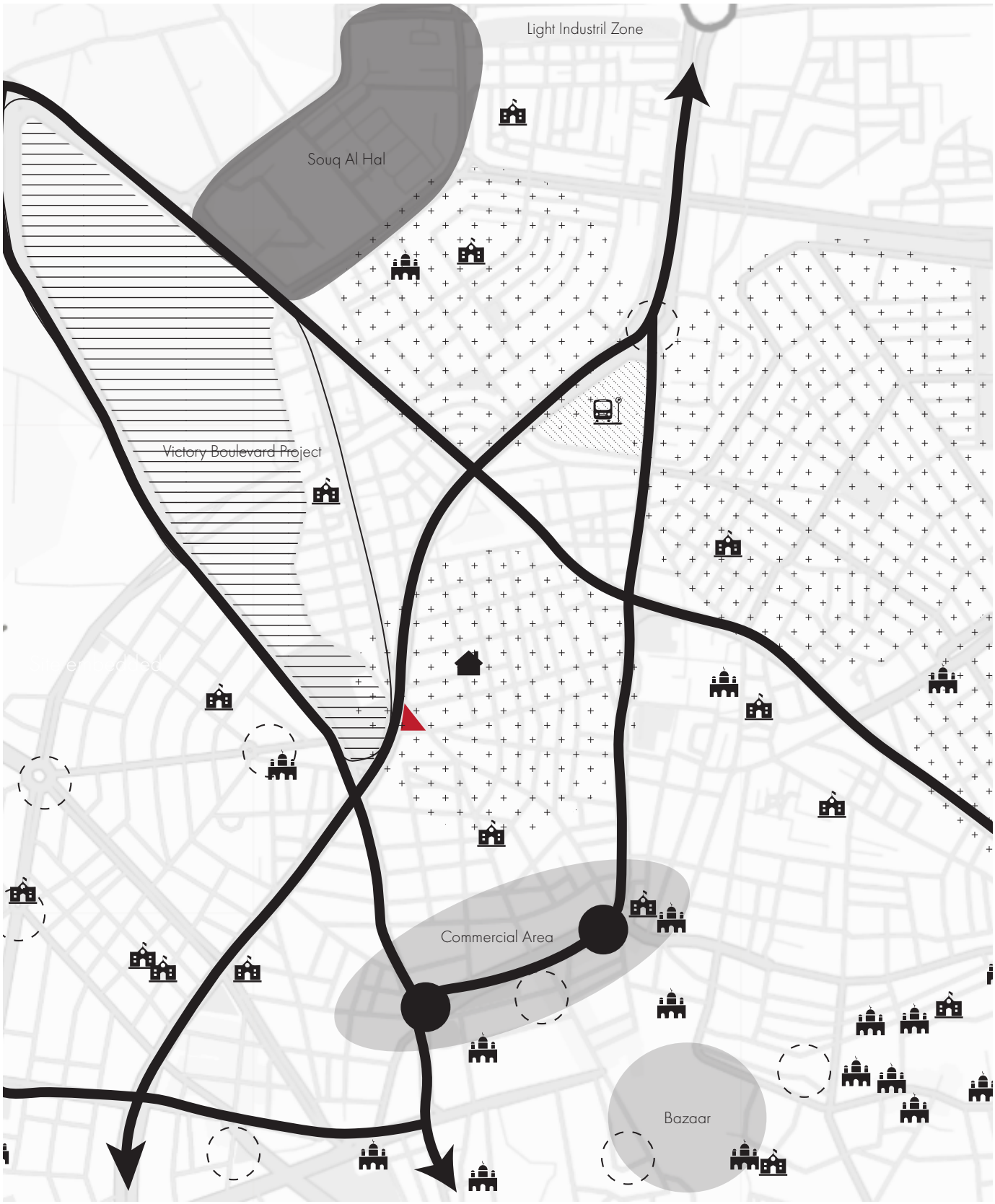


Distributed agency



3.2. Picked Location

Jouret Al-Shayyah was chosen because it is one of the most important and most challenging areas in central Homs. The Homs Urban Profile shows that this neighborhood sits inside Area B, the modern city center, where many of the city's commercial, administrative, and residential functions meet. It is also part of the Homs Boulevard Project, which makes it a highly visible and symbolic location within the city's reconstruction efforts. Jouret Al-Shayyah has experienced severe physical damage, with many buildings destroyed or heavily affected, and all schools currently out of service. Basic services such as water, electricity, sewage, and waste management are unreliable. At the same time, the neighborhood has a high return rate of 40%, showing that many families are coming back despite the difficult conditions. This creates a real need and a real opportunity for thoughtful, community-focused rebuilding. The area also has a mixed-use urban fabric, with residential streets, commercial areas, and administrative services all close together. This makes it a strong location for reactivating daily life once infrastructure and public spaces are improved. The recovery plan identifies Jouret Al-Shayyah as a priority zone, with planned interventions in housing, commercial streets, public spaces, and essential services.
The neighborhood contains vacant and unbuilt land, which allows for flexible, phased development , something that aligns well with a project focused on participation, adaptability, and incremental growth.


Light Industril Zone
Souq Al Hal
Victory Boulevard Project
Commercial Area
Bazaar

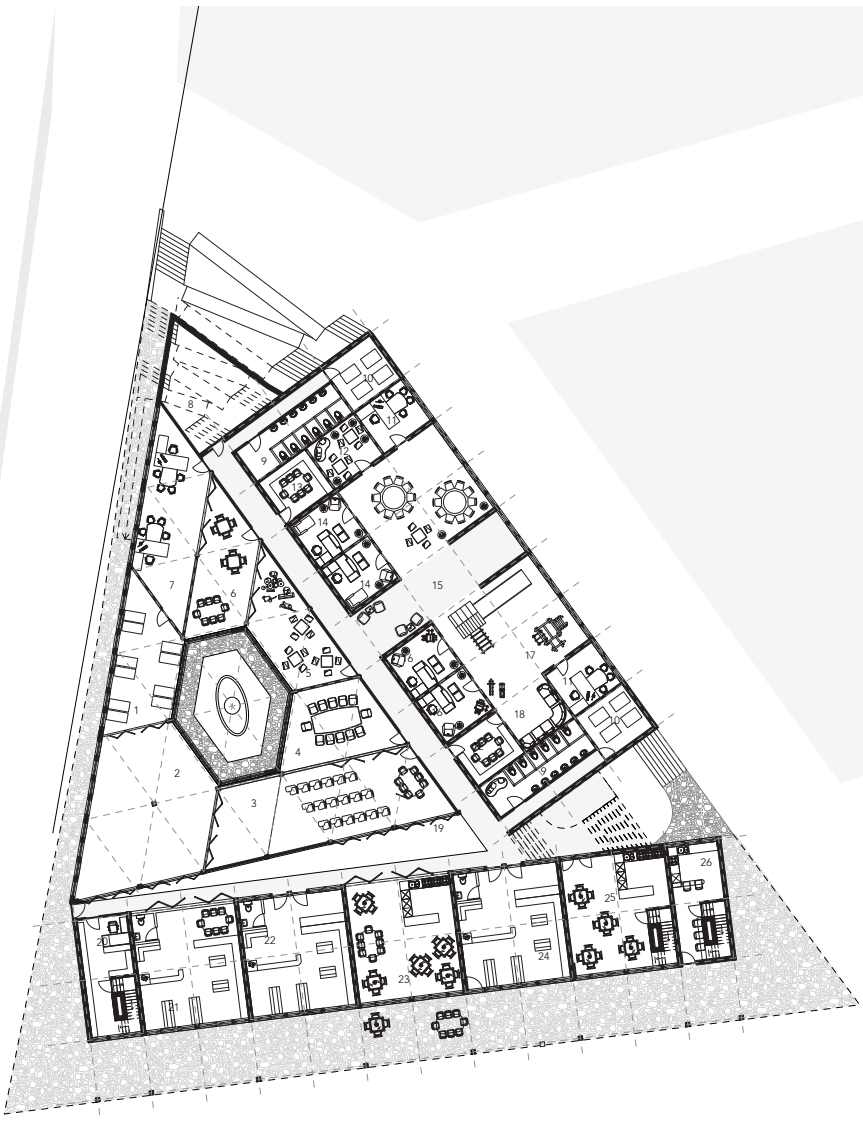
3.3 Plinth structure and program (Phases 1–2)

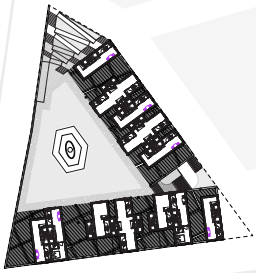
Phase 1 establishes a circular-column, beam-and-slab plinth sized to accept stacked modules while leaving internal bays intentionally flexible. The irregular column grid resolves the triangular boundary; brick infill beneath each house and lightweight folding partitions allow early occupation and later reconfiguration. A central hexagonal courtyard concentrates shared activity and supports cross-ventilation. Setbacks are incorporated into the plinth footprint: a 4 m setback on the south side and a 1.5 m setback on the west side. These setbacks shape sun exposure, create buffer zones for shading and privacy, and provide space for shaded approaches and transitional thresholds that mediate public and private realms.
Two external staircases provide primary access from the plot up onto the plinth and to the entrances of the stacked typologies. These outdoor staircases are positioned to relate to the plot geometry and the courtyard, creating deliberate circulation lines that embed the plinth into the plot and generate forced, repeated interactions between households. The staircases create visual connections across levels and act as social thresholds where everyday encounters and negotiation can occur.

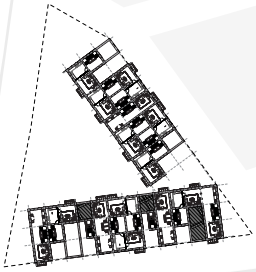
Phase 2 translates the trigger set into programmatic content. The plinth is the social, economic and cultural base and contains governance and participation rooms, cultural and ritual spaces, care and psychosocial support rooms oriented for acoustic privacy, learning and livelihoods workshops, mltipurpose spaces aswell as gathering spaces are arranged around the courtyard and economic driving functions are places on the south in order to create space for possible epanison to the neighbouring plot. The plinth is conceived as a thick, porous base that filters light, draws air, and acts as a social condenser; the staircases and setbacks strengthen its integration with the plot and intensify opportunities for co-presence and informal governance.

The plinth's programmatic concentration (governance, care, livelihoods) ties social infrastructure directly to everyday circulation, strengthening the claim that architecture can trigger participation rather than merely host it.

Render of the staircase between the housing series





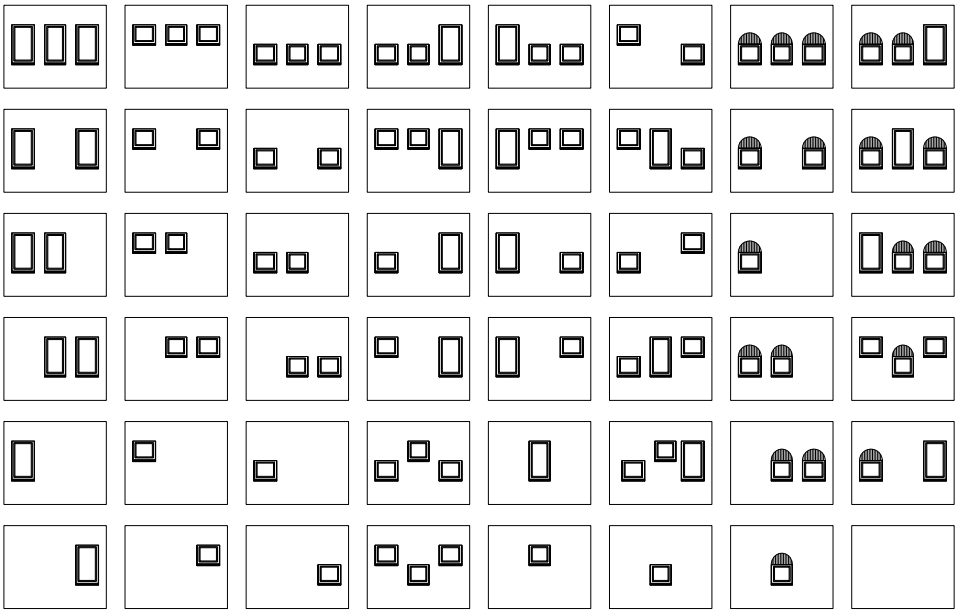


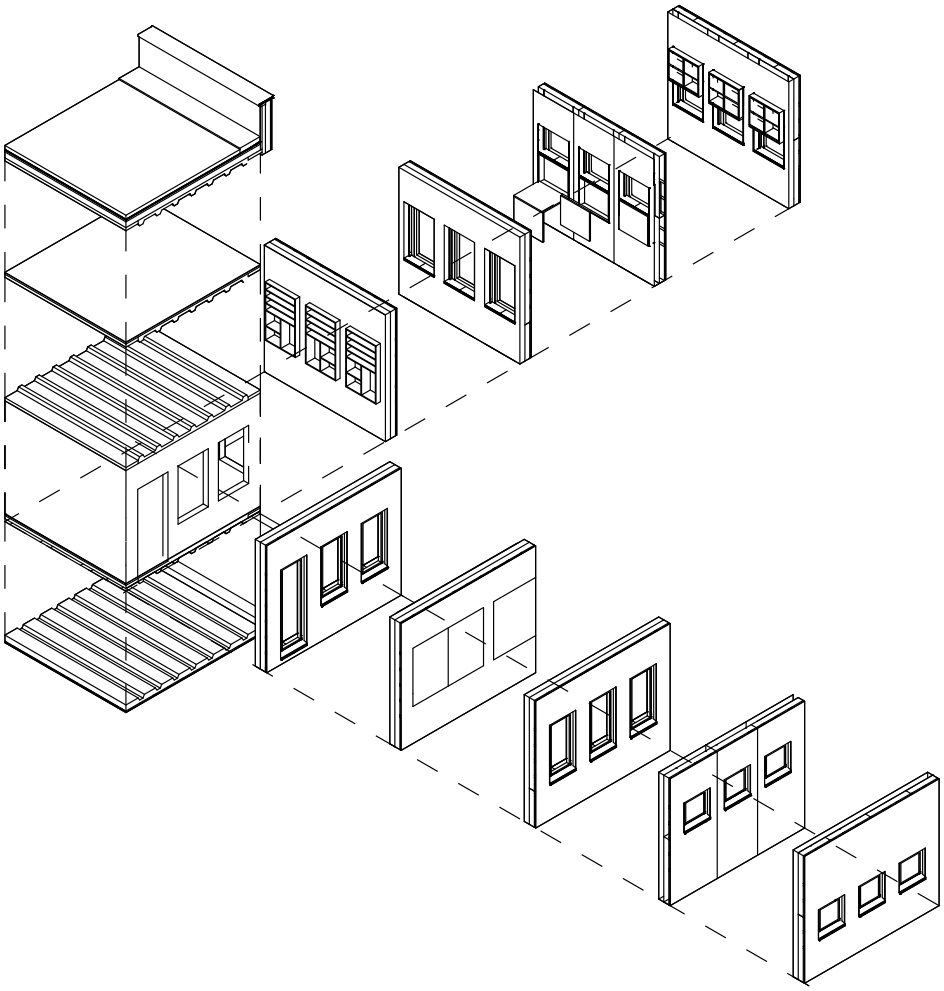
1 to 200 floorplan of the plinth with zoom into the courtyard, extention spaces and flexible infill

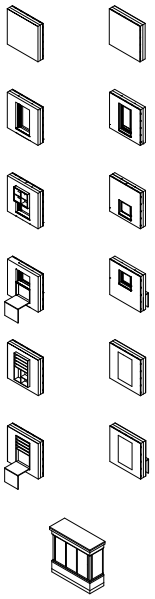
3.5. Module catalogue

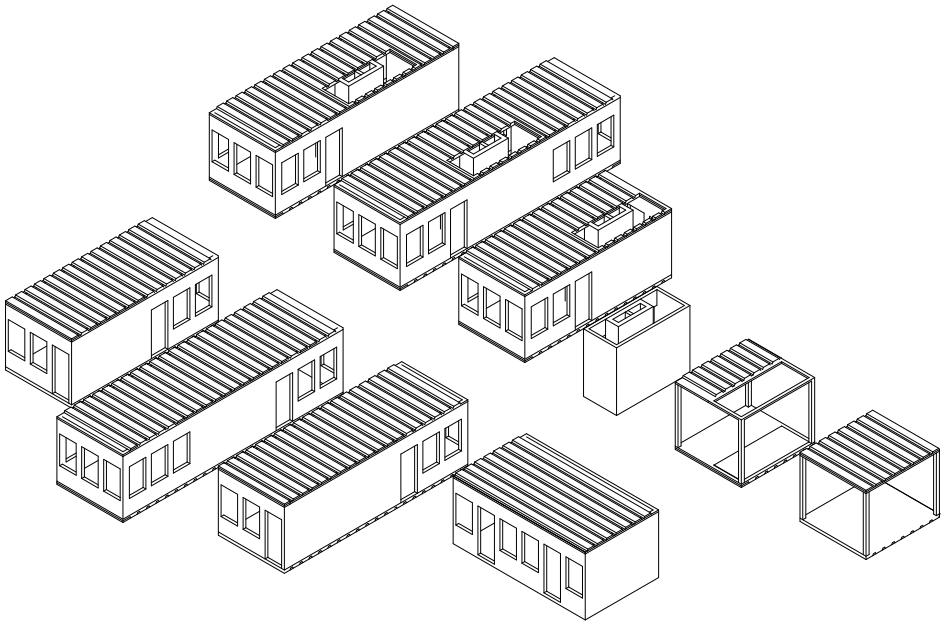
Phase 3 produces a compact, rule-based catalogue of ten concrete modules: seven living modules of varying lengths, one staircase/MEP module and two structural support modules. All modules are keyed to the 7.2 × 12 m rhythm with a half-plot option at 3.6 × 12 m. A single, repeated opening size and rhythm across modules of 75 cm high by 90 cm wide and 1.5 m tall with 30 cm spacing. The size of the opening are desined so that each module can cantilever up to 2 m. Where greater overhangs are required a structural support module is inserted beneath to preserve outdoor space while supporting the floor above. The staircase/MEP module consolidates vertical services and can be placed inside a living module or as an external core.

For façades a replaceable sandwich panels (light mineral wool and steel structure) with three infill options: full glazing, furniture-embedded sandwich panels, and half/half configurations where a 75 cm window is paired with a 75 cm furniture panel. The half-window can be positioned top or bottom to calibrate privacy and use (top half for privacy, bottom half for seated lookout). Façade systems are lightweight and replaceable using mineral wool and steel sandwich panels, timber or Rockpanel-type cladding. The openings are fuly made customsable with the support of the three infill options (full glazing; furniture-embedded sandwich panel; half/half window-panel) that balance daylight, privacy and DIY adaptability. The catalogue is delivered as module dimension sheets, connection, façade details and assembly sequences that define permissible modifications a clear approval workflow for resident interventions.



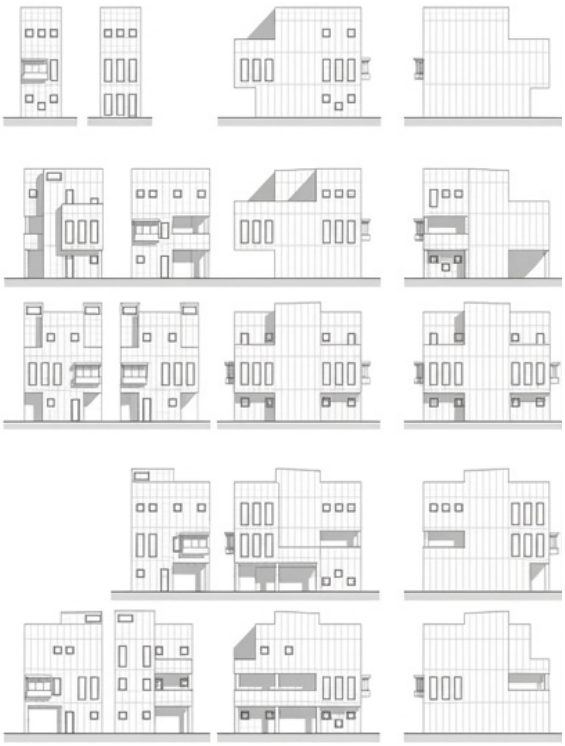




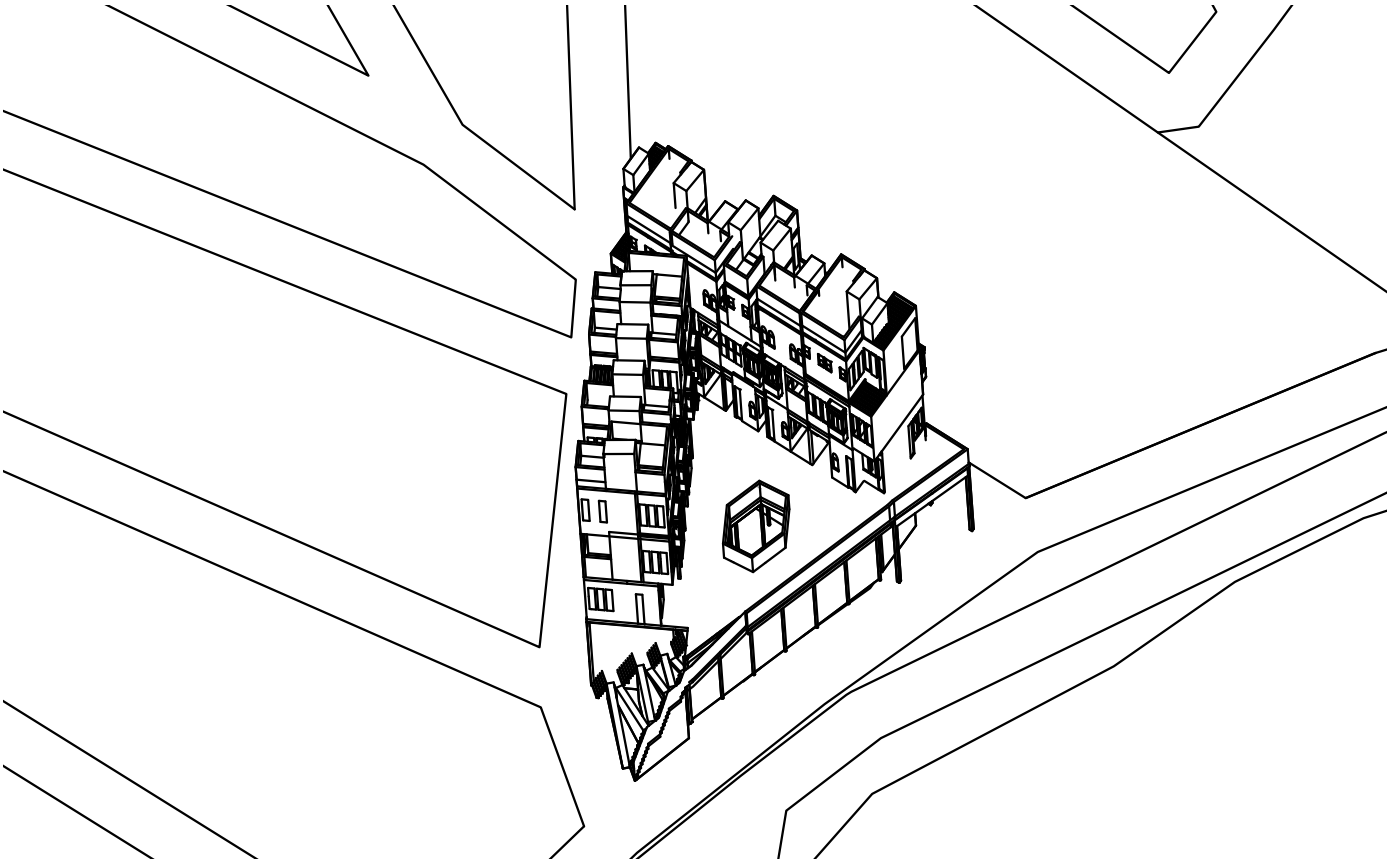


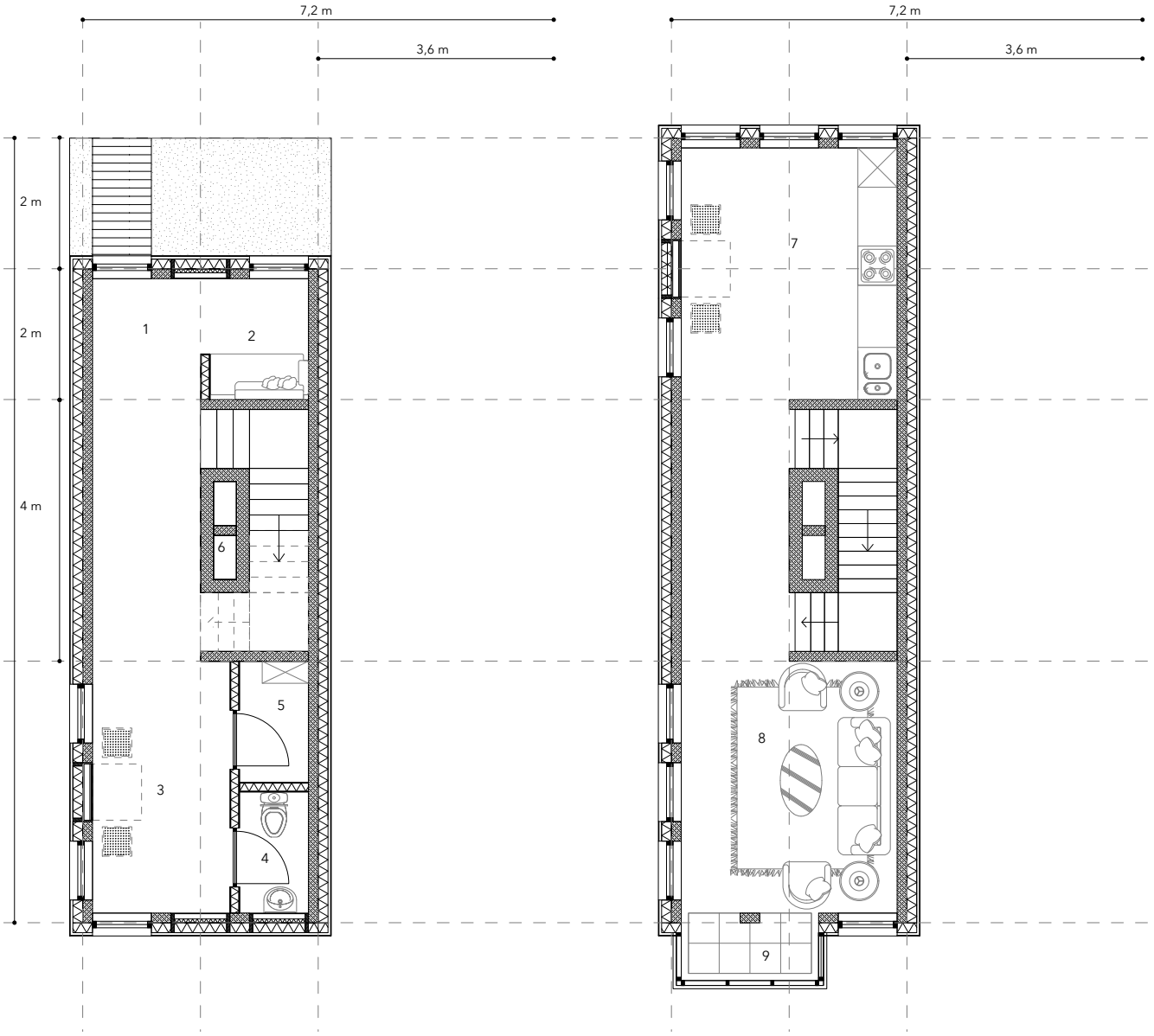
3.6. Typologies

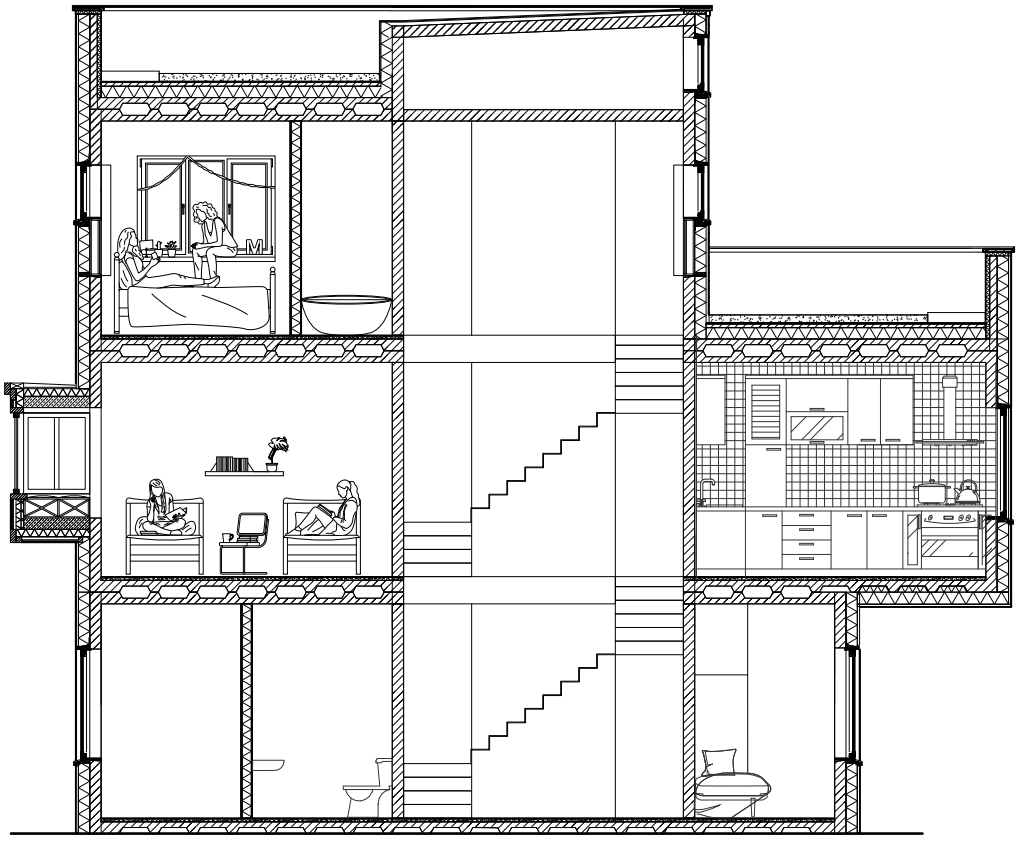
The typologies translate the module catalogue and plinth logic into five persona-driven house families that are legible, adaptable and staged for incremental occupation. Each typology is described as a sequence of stacked modules rather than a fixed plan, with a consistent vertical public ~~p~~rivate gradient across three levels: ground floor (public/entrance functions), first floor (living/kitchen), and second floor (sleeping/work). Every typology includes at least one roofed extension-ready bay and one open extension-ready bay so households can legitimately sequence growth from terrace to enclosed room. The standardized opening rhythm and the 2 m cantilever rule remain binding across all typologies; where larger overhangs are required, a structural support module is inserted beneath to preserve outdoor space while maintaining structural safety. Façade infill follows the same three options across typologies—full glazing, furniture-embedded sandwich panel, or half/half window-panel—so residents can choose display, storage or privacy strategies without altering the support layer.



Across all typologies, three staged sequences are defined—initial occupation, basic infill and advanced infill—each tied to clear technical thresholds for service taps, permitted penetrations and when engineer or community sign-off is required. The typologies therefore function as living templates: module combinations and stacking rules are fixed to protect the long-life support layer, while façades, internal layouts and extension sequencing remain intentionally incomplete to enable resident agency. Deliverables associated with the typology work include assembly diagrams, section details for roofed and open extension bays, privacy/daylight matrices aligned to the standardized opening rhythm, and a short rulebook that maps negotiation nodes and approval triggers. Prototype workshops and persona exercises validated these typologies and produced the governance inputs—maintenance schedules, negotiation sequences at stair landings, and fast-track approval routes for safety-related changes—that are now integrated into the rulebook to support staged, equitable adaptation in practice.







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The single shopkeeper
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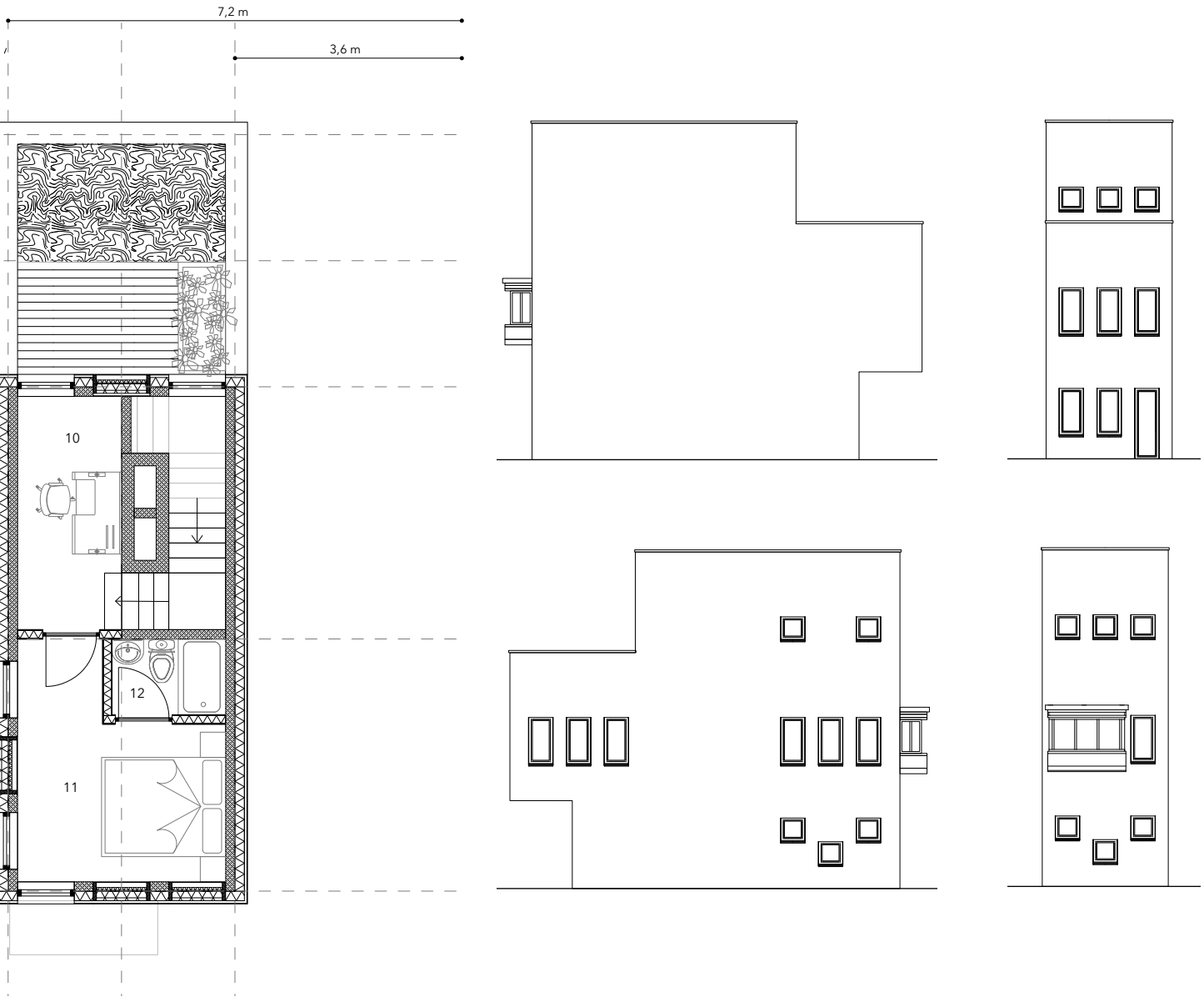

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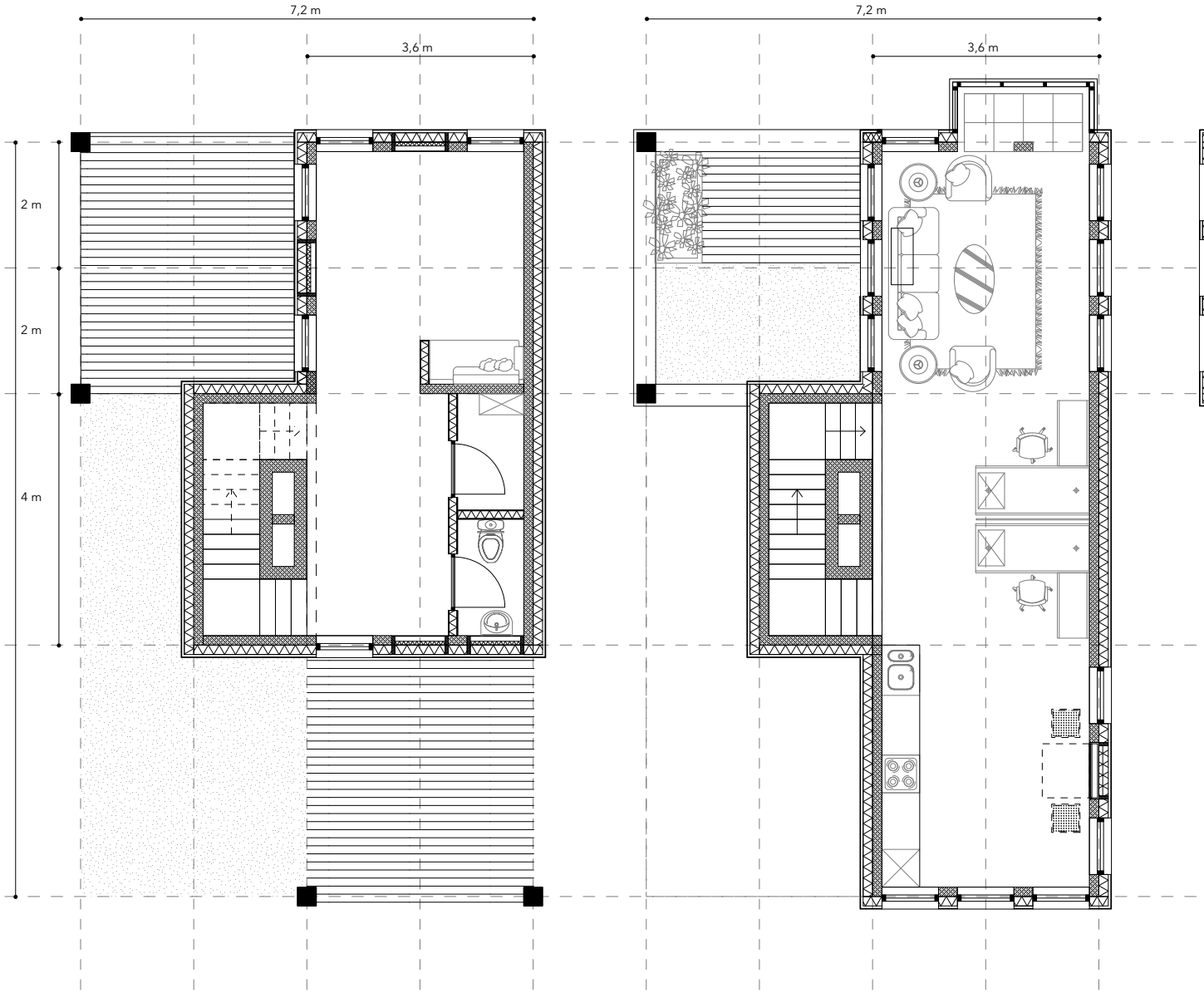
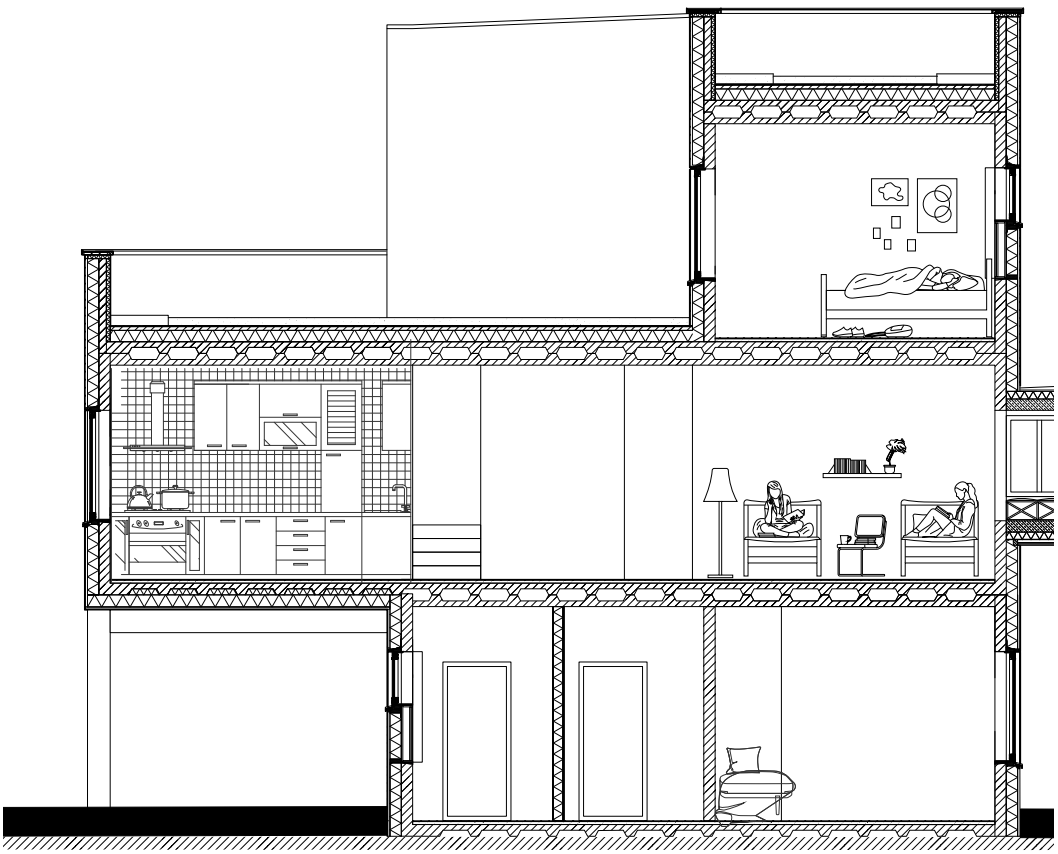
typology occupies a half-plot (3.6 × 12 m) and combines a ground-floor possibility with compact upper living. The ground oritise direct street access and a roofed extension bay for sheltered display and storage. The half/half façade is the default iture-embedded panel for counters and storage with an upper 75 cm window for daylight and modest privacy. The open lly used as a private terrace, while the roofed bay is staged for later enclosure into a permanent market stall. Negotiable street edge where adjacent shopfronts meet; these edges are defined as community negotiation nodes with clear rules for arapet use.





THE MAKER COUPL

The maker couple typolo
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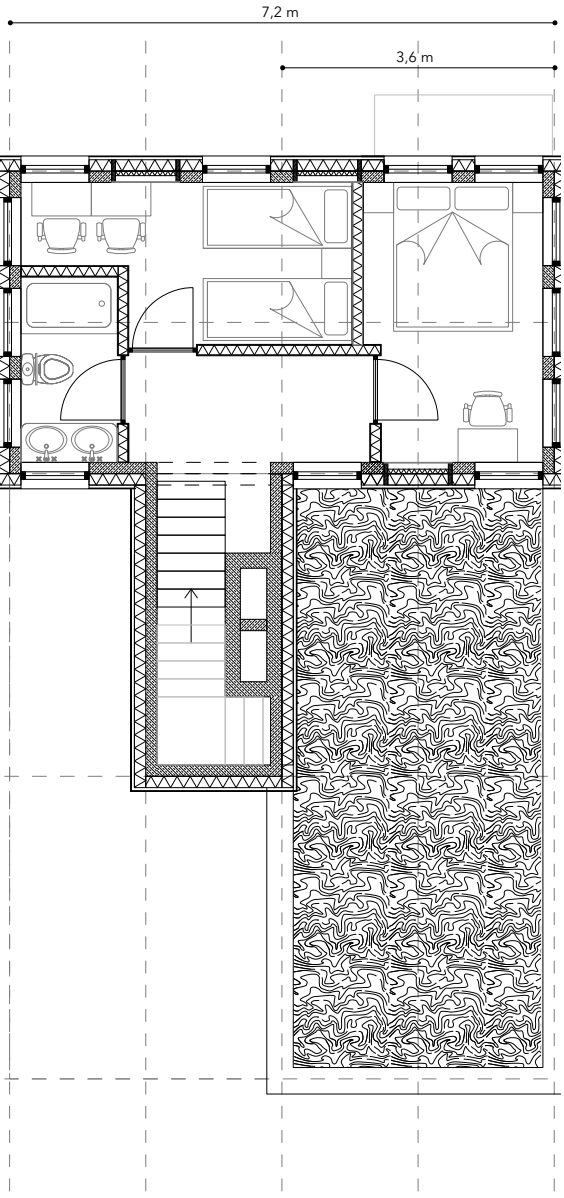
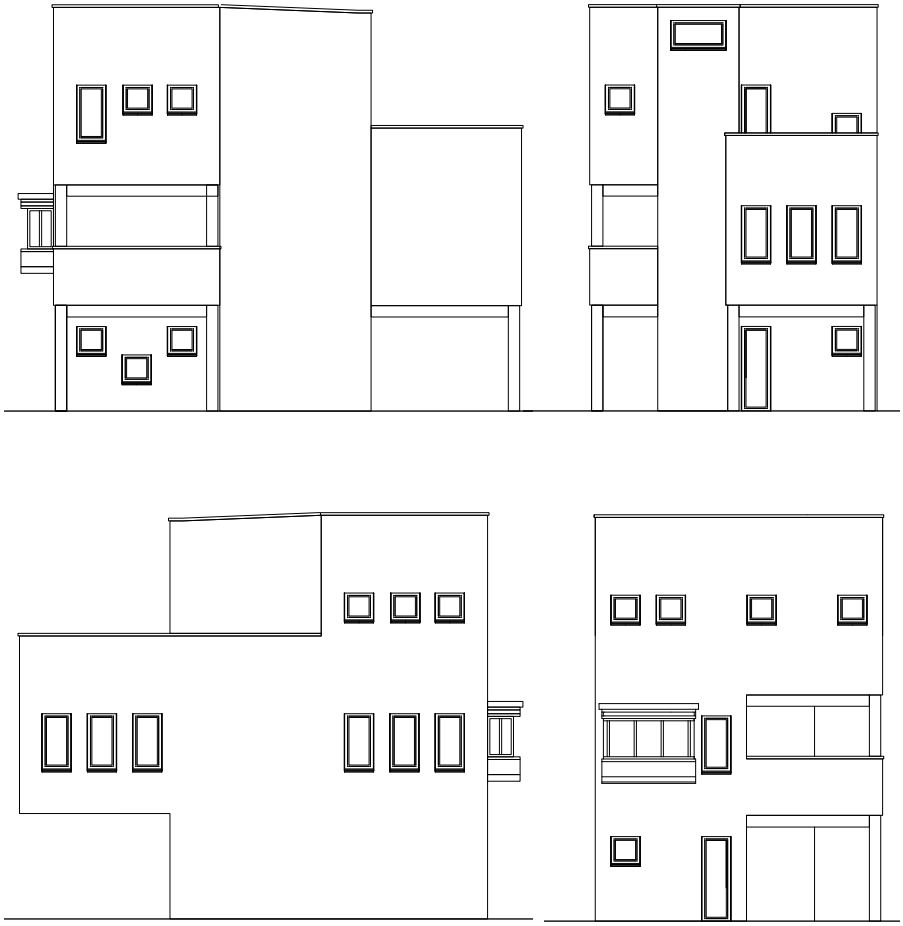
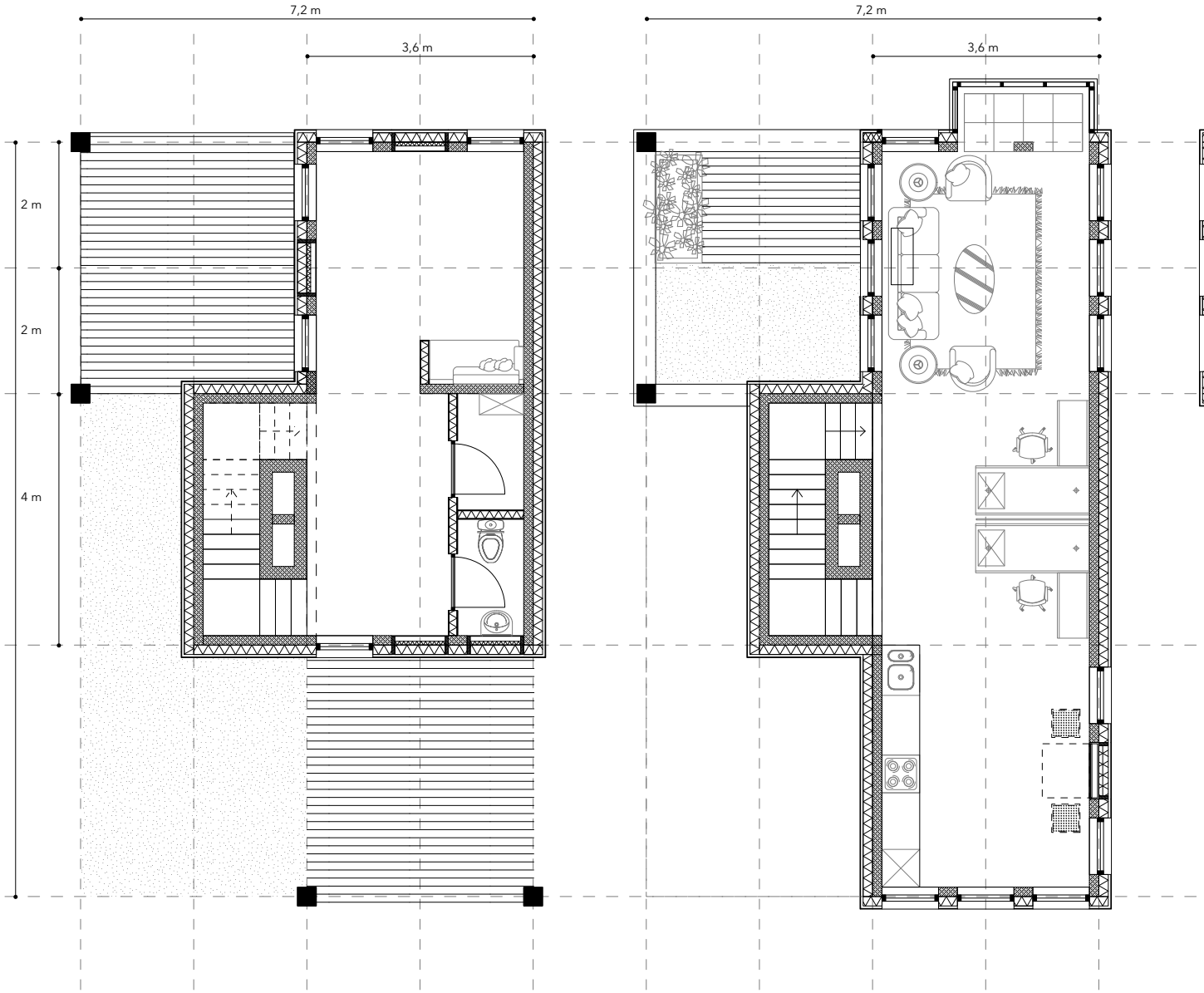
courtyard-facing househ

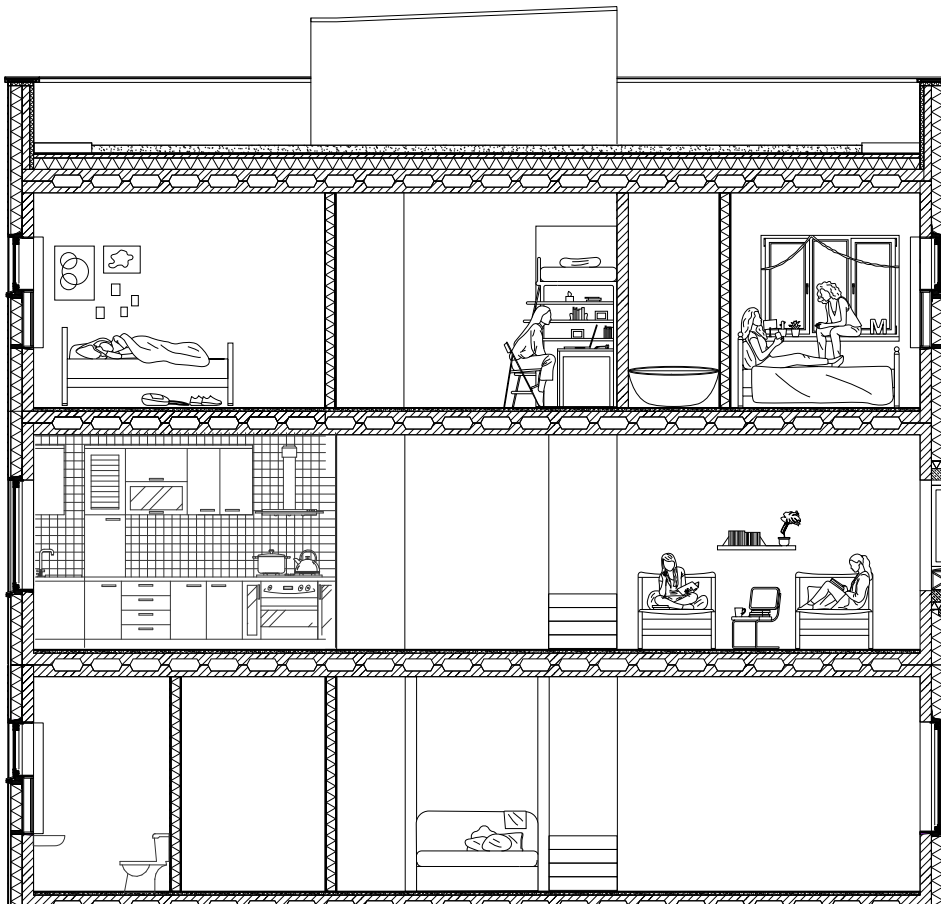




LE

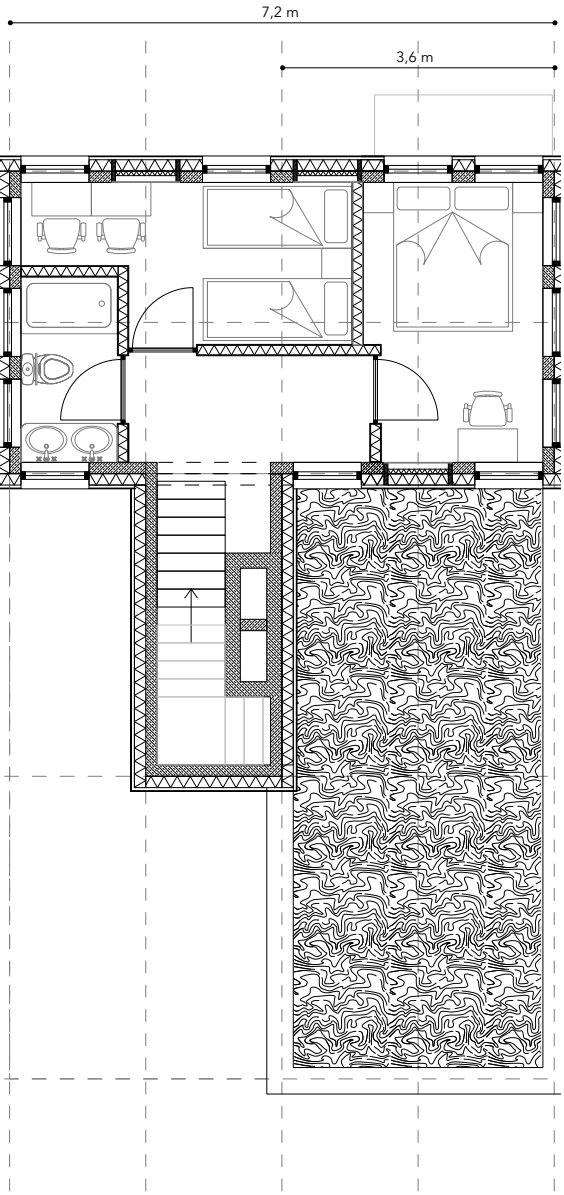
ogy uses a full-plot stack (7.2 × 12 m) to combine larger workshop areas with two-bed living. Ground-floor workshop bays t or plinth circulation for easy material access, with the staircase/MEP core placed externally where possible to maximise ade choices favour furniture-embedded panels that double as workbenches and storage; full glazing is permitted for mar-e. Extension sequencing prioritises roofed bays adjacent to the workshop for tool storage and covered sales, followed by into additional production or living space as income and need evolve. Negotiation nodes appear where maker bays abut holds; protocols for noise, loading and shared access are embedded in the rulebook.

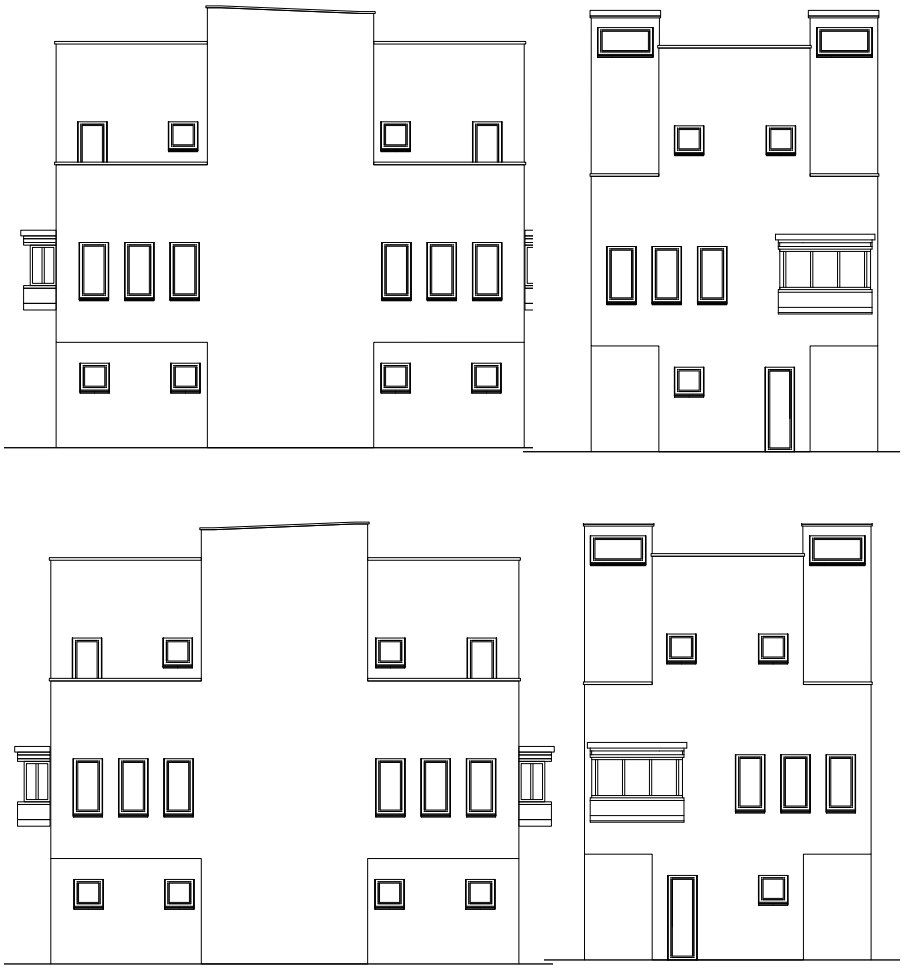




THE SUPPORTIVE H

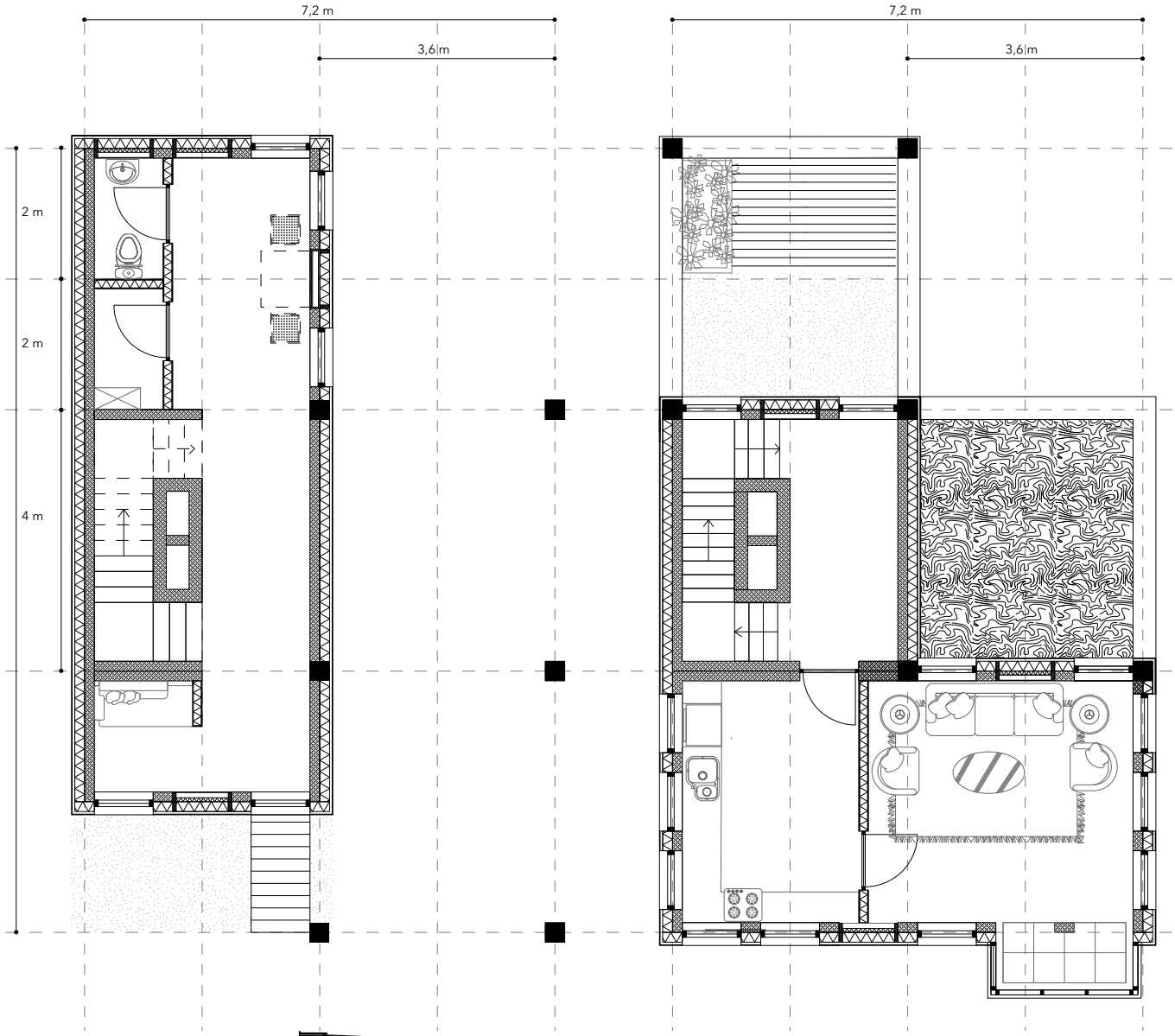
The supportive household arrangement produces to allow one household ation zones for shared

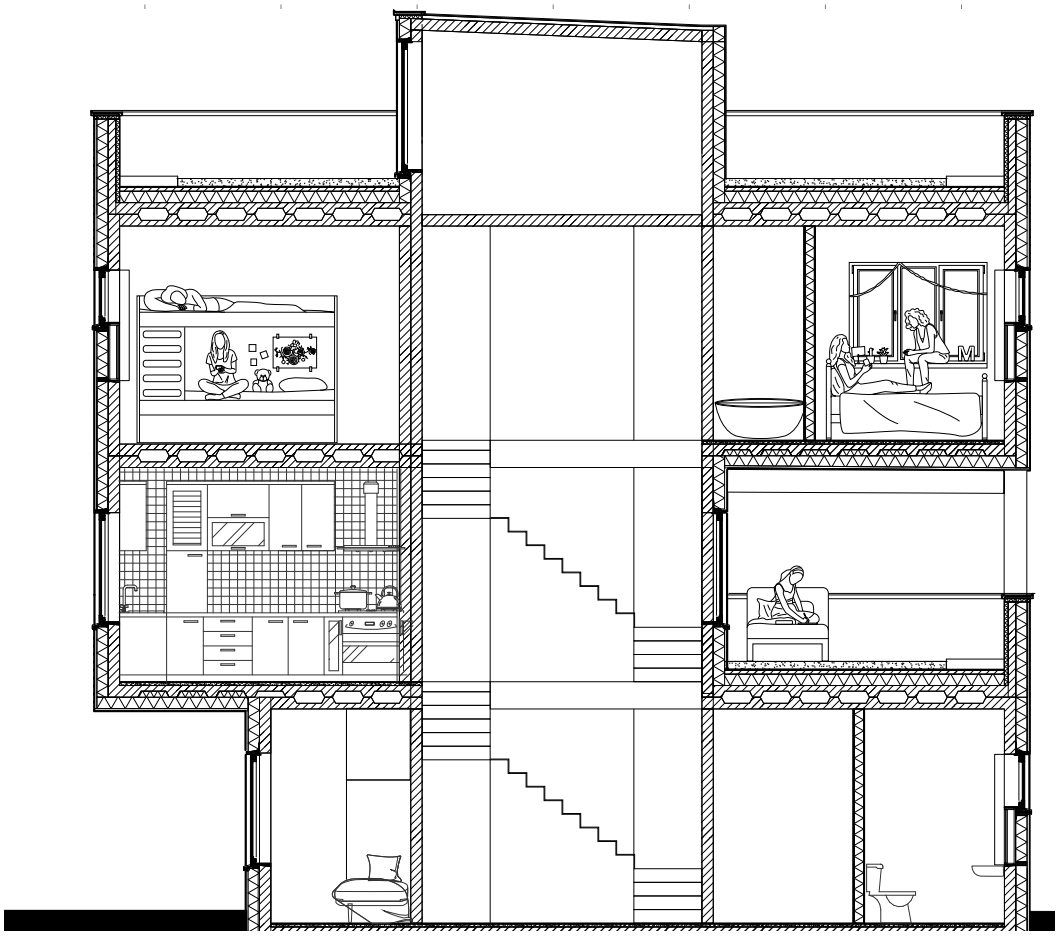




HOUSEHOLD

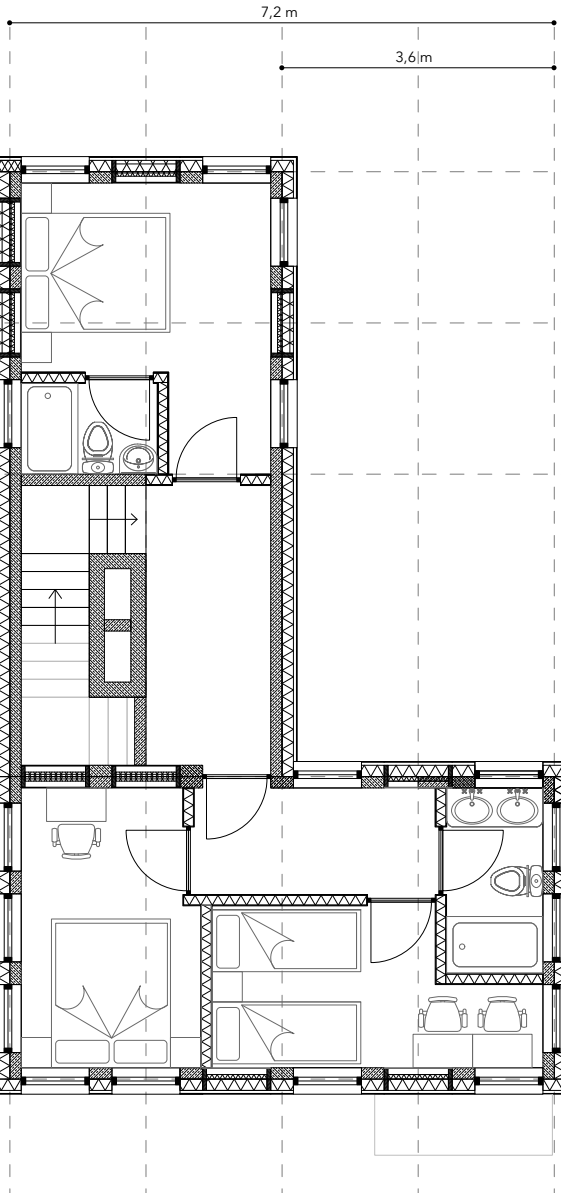
old typology is formed by interlocking double cores that create two interlocking one-bed units from stacked modules. This s shared circulation and a common entrance module that formalises collective thresholds. Extension-ready bays are distributed d to expand while the neighbour retains access and oversight; parapet and stair landing intersections become explicit negoti- decisions about enclosure, shading and service taps.

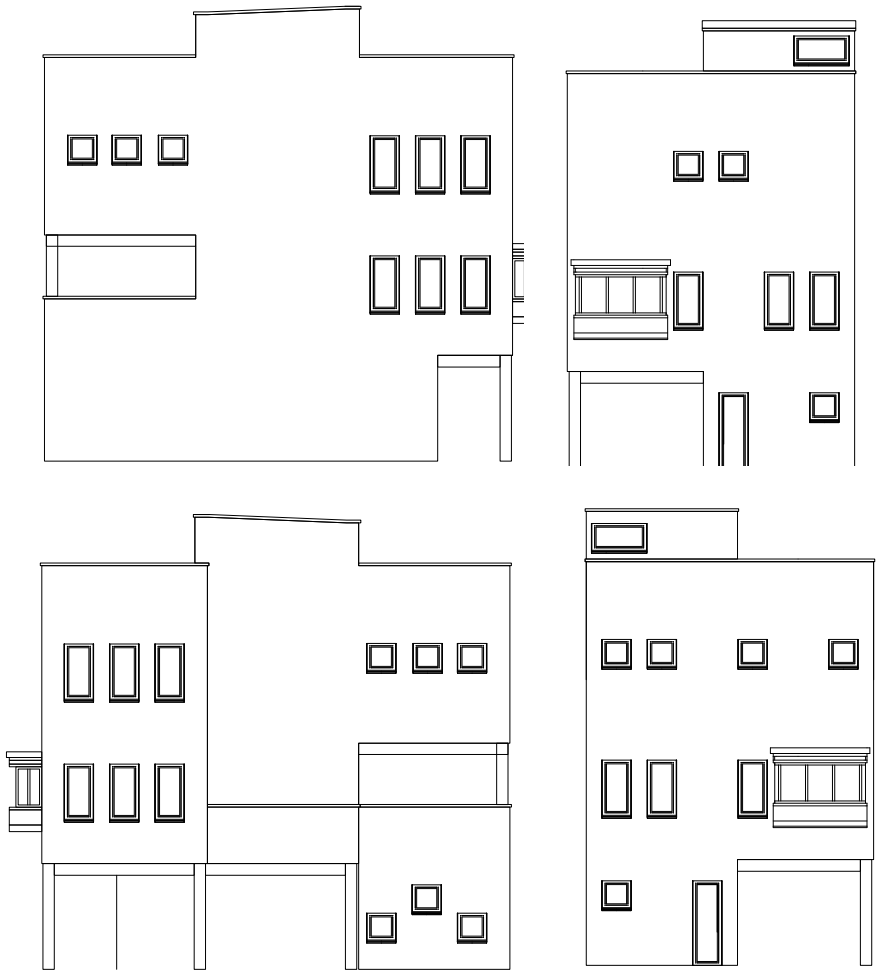




THE FAMILY BUILD

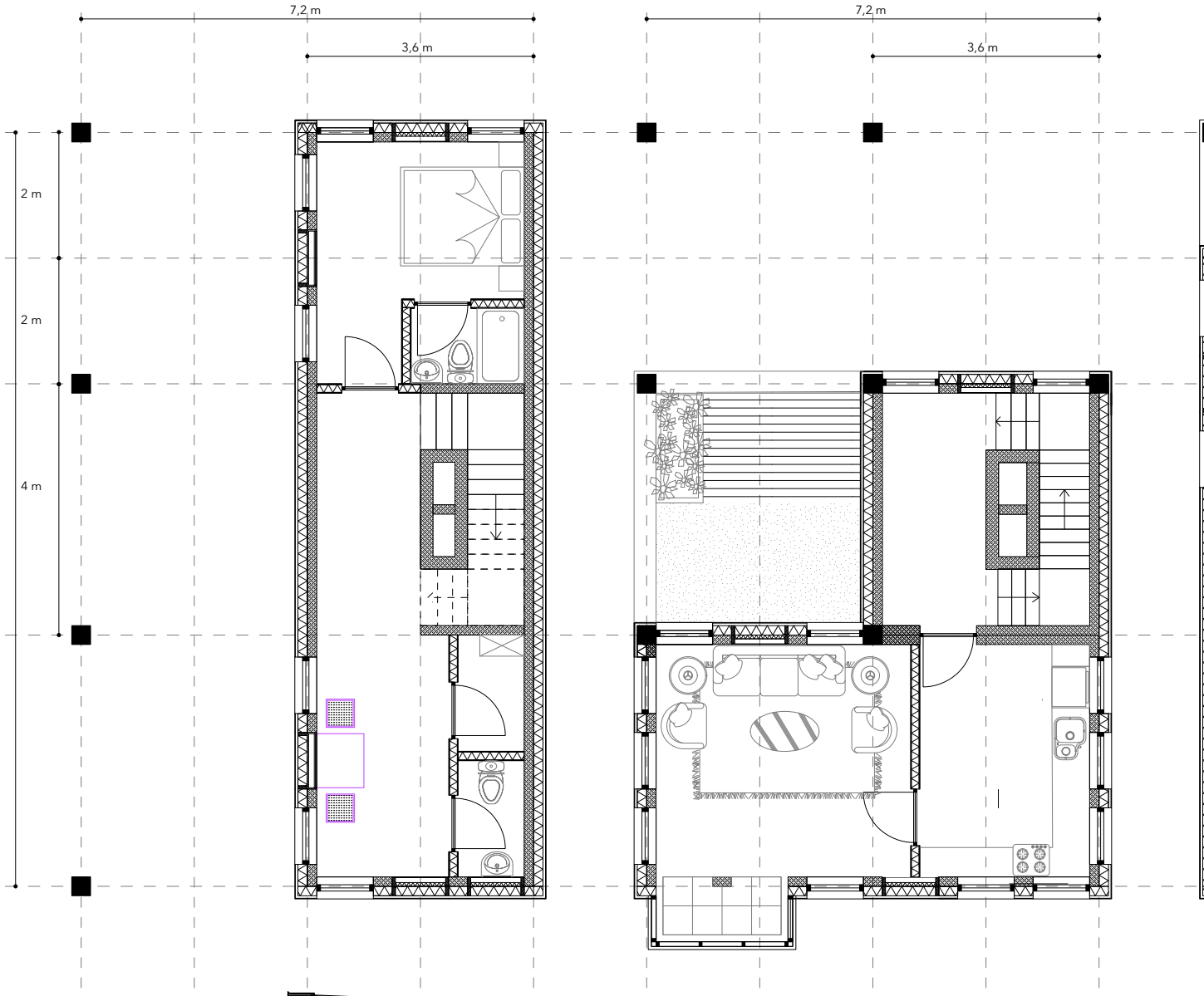
The family builder typo
roofed extension bays
occupation and can b
proportions follow the
cy on the higher floors.

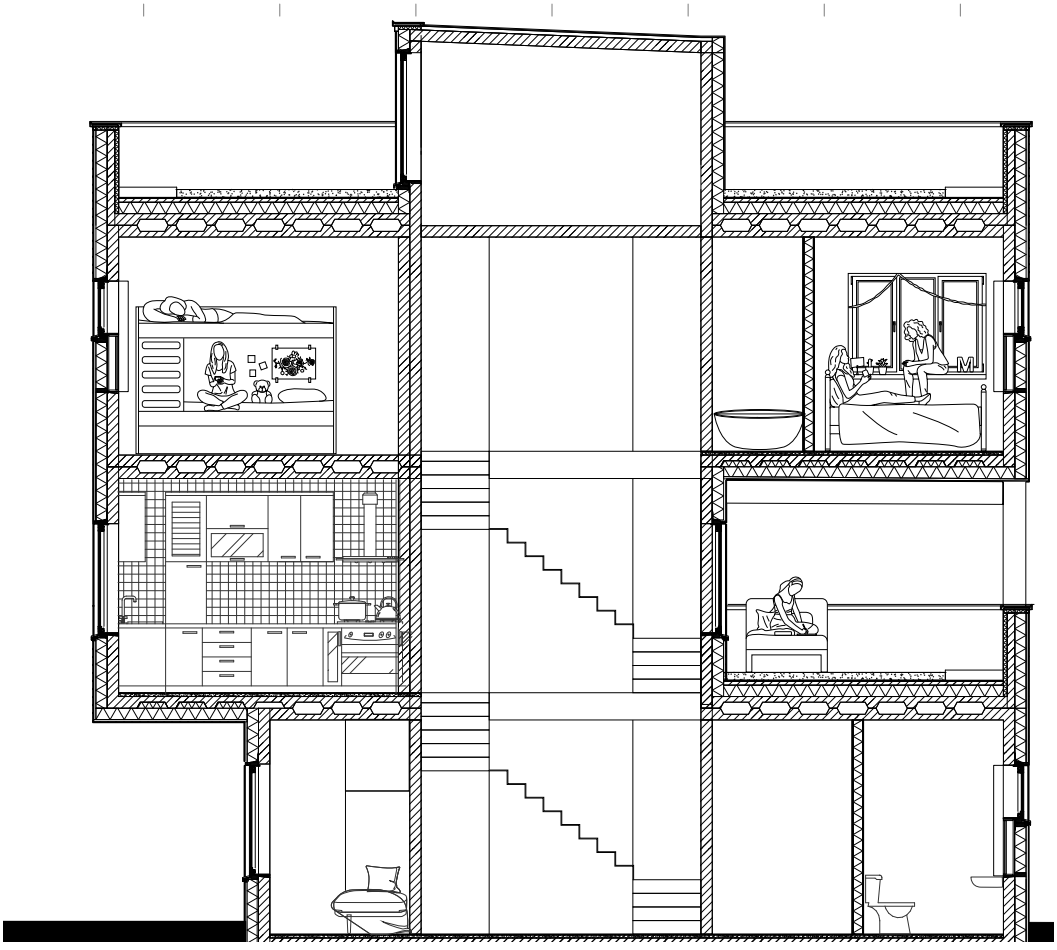




DER

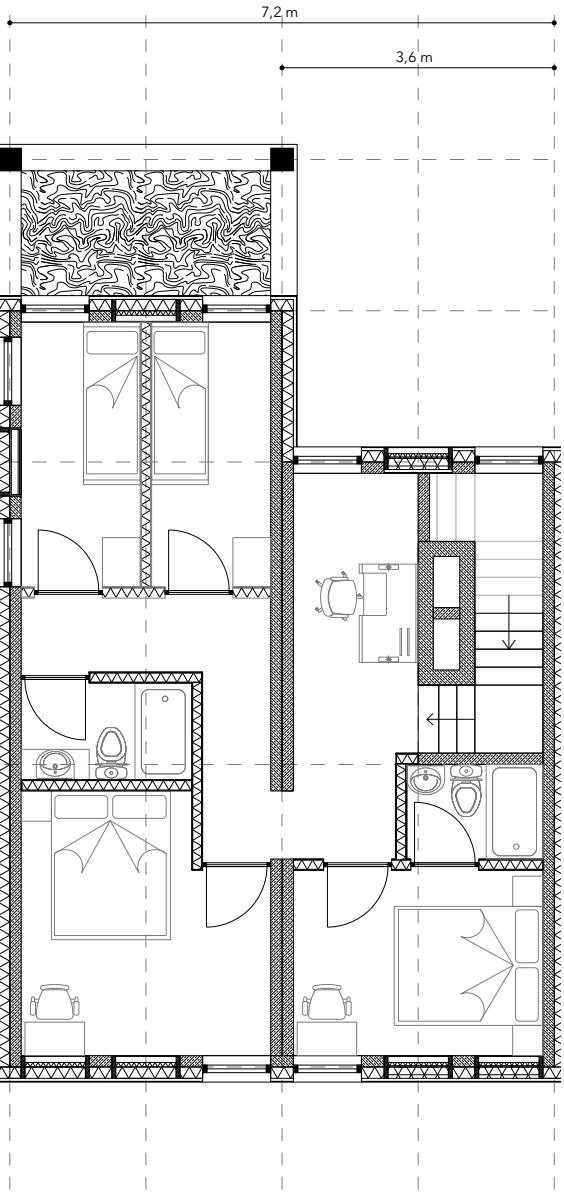
logy targets vertical family growth on a full plot. The stack is arranged so that initial occupation provides living functions while are reserved for future bedrooms for additional kids or enlarged living areas. Open bays are used as terraces during early e enclosed later without invasive work because load paths and parapet anchors are pre-engineered. Window and balcony public–private hierarchy: larger, screened openings toward the courtyard; smaller, higher windows on façades requiring priva-

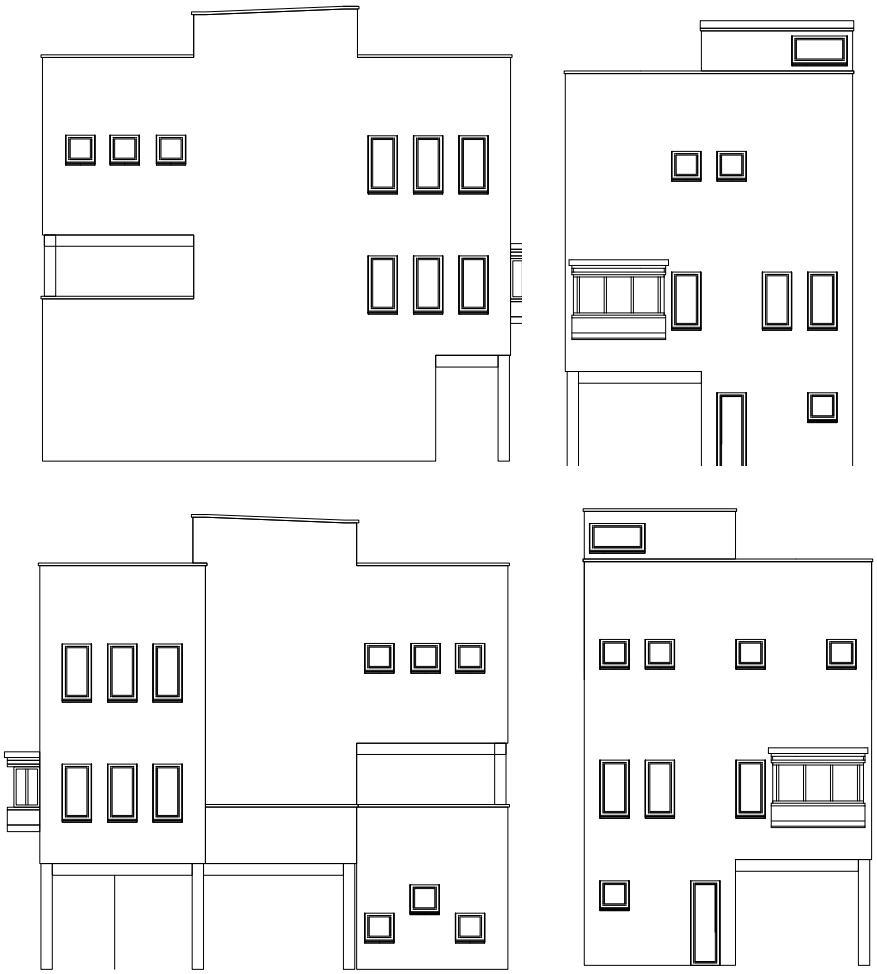




THE FAMILY SUPP

The family supporter ty
floor. This typologies h
round floor of the hous





ORTER

pology occupies a full-plot footprint and diverges fro the privacy gradient wth an extra bedroom with ensuite on the ground
nas the most amount of enclosed extention zones in order to eleviate to extention load and promote easier extention on the
es.

3.7. Material, Climate and Structure

Material selection, structural logic and climatic performance operate as a single system within the project. The material palette is not decorative; it is a direct extension of the architectural triggers, support and infill, negotiable thresholds, incompleteness, and cultural continuity, that guide the entire design method.

3.7.1.Structure as the Support Layer

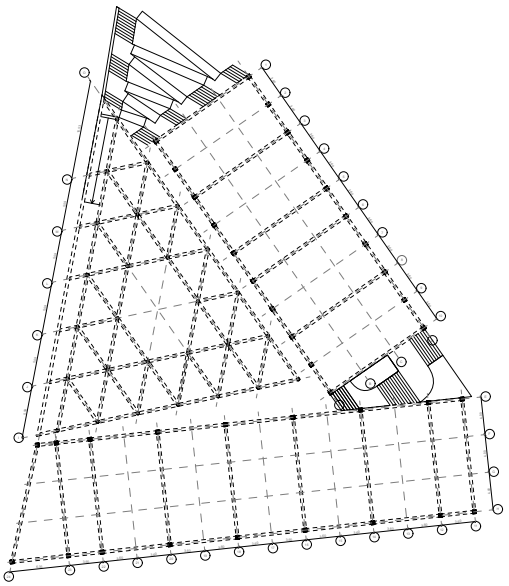
The concrete modules are designed as half-thickness structural shells with ribbed roof and floor slabs, significantly reducing the volume of concrete while maintaining stiffness and spanning capacity. This ribbing strategy also creates natural service channels and improves thermal performance by reducing unnecessary mass.

At points where modules intersect or stack in more complex ways, the concrete thickness doubles locally, creating reinforced zones that absorb higher moments and shear forces. These thickened areas are not uniform; they respond directly to the type of connection: The Cantilever conditions receive an additional insulation module on the exterior face, ensuring thermal continuity and preventing cold bridges while maintaining the 2 m cantilever limit.

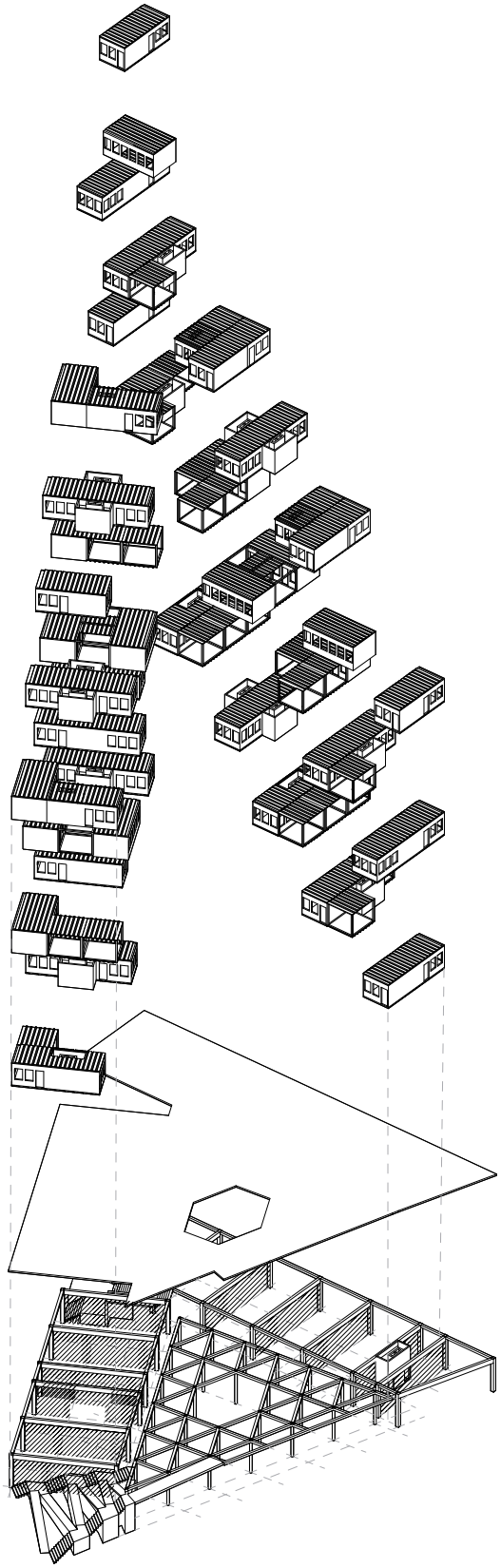
While the Terrace conditions receive a trim module, which resolves drainage, edge protection and waterproofing without altering the structural core. All module-to-module connections are dry, using bolted plates and keyed interfaces. This ensures that modules can be added, removed or modified without damaging the support layer. Depending on the function—terrace, cantilever, roof garden, or internal stacking—the detailing shifts slightly, but the principle remains the same: reversible, legible, and safe connections.

The plinth uses a reinforced concrete column-beam system for seismic stability, with a 7.2 × 12 m grid that becomes irregular where the triangular plot boundary requires it. Beneath each housing footprint, brick infill provides additional stiffness and continuity.

Where thermal mass and acoustic buffering are needed—especially in care, cultural and learning spaces—compressed earth block or rammed earth infill is introduced. These materials stabilise indoor temperatures, reduce echo and reinforce the project's connection to Syrian construction traditions.



First sketch of the building

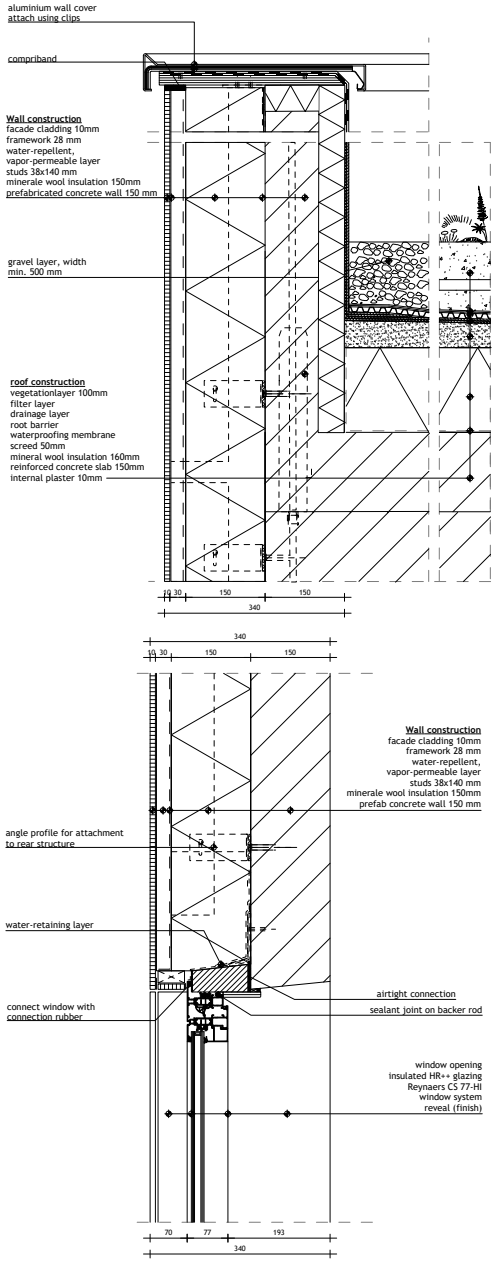


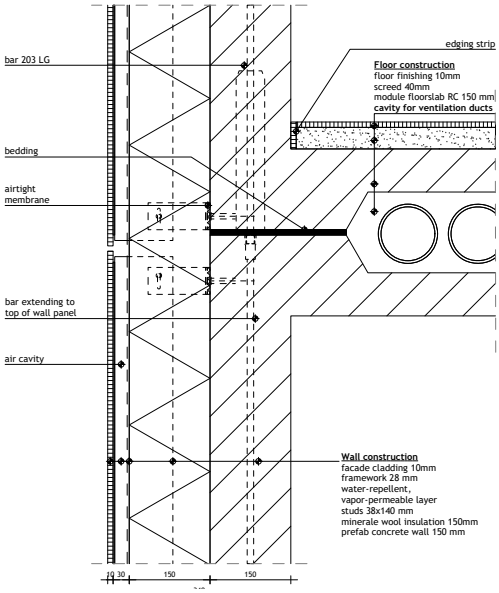
Ref: Pockets of survival and alleys of livelihood: tracking local practices to sustain urban vitality in cities during and post-conflict in the city of Homs/Syria
Alraouf, A. A. (2018). Pockets of survival Informality resilience and post conflict urbanism. Journal of Urban Design, 23(4), 512–531.

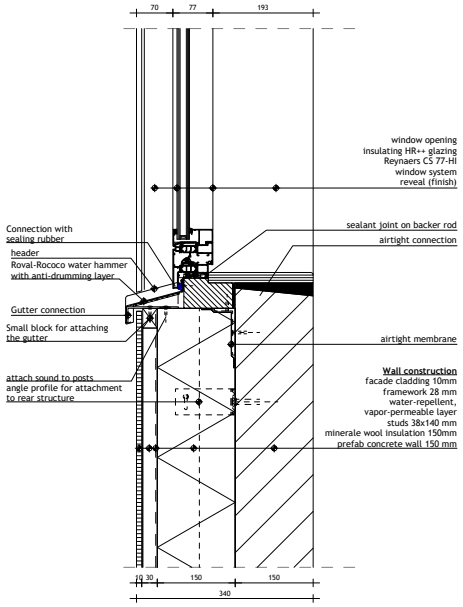
3.7.2. Materiality as Cultural Continuity

Material choices intentionally echo the textures, colours and atmospheres of Homs and roader Syria. Earth plaster, timber screens, terracotta tiles, stone paving and lightweight cladding panels (such as Rockpanel) form the primary infill and finishing materials. These materials support DIY modification, allow residents to personalise their homes, and maintain a sense of cultural continuity even as the building grows and transforms over time. The façade system is deliberately modular: non-loadbearing partitions, replaceable sandwich panels, and extension-ready terraces allow households to adapt their units safely. The half/half façade option—combining a 75 cm window with a furniture-embedded panel—supports privacy, daylight and cultural practices such as removing headscarves in semi-private spaces.

The project's material and structural strategies are inseparable from its social and climatic ambitions.

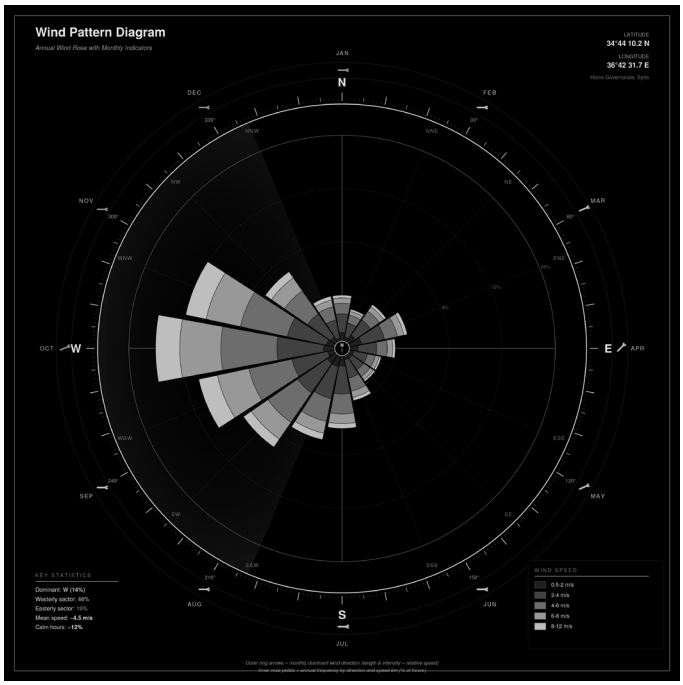


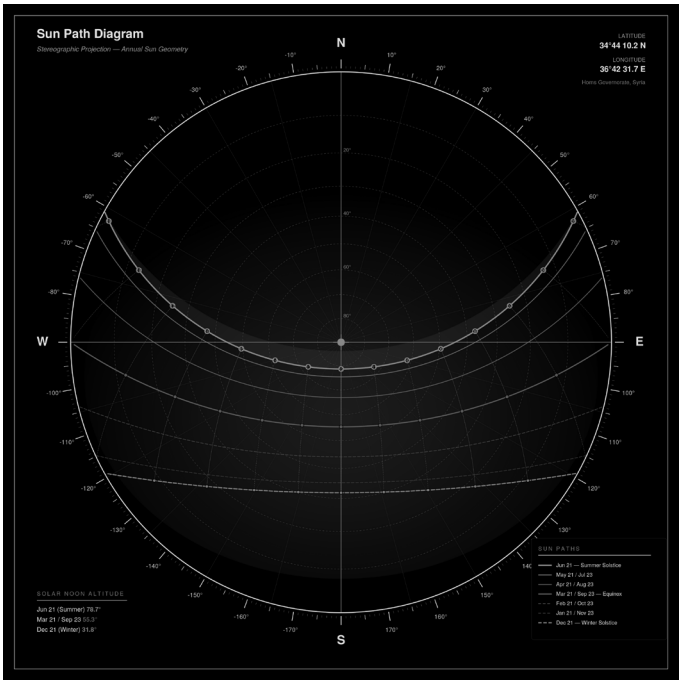




3.7.3.. Climate as Spatial Infrastructure

Climate-responsive design is embedded in the project as a spatial and social infrastructure. The plinth and the stacked modules work together to create comfortable microclimates that support everyday participation, outdoor occupation and gradual expansion.
The housing façades use stone and terracotta to absorb heat during the day and release it slowly at night, stabilising indoor temperatures. Mashrabiya screens provide privacy, solar control and filtered daylight, especially for spaces where women require visual protection without sacrificing light.
The central courtyard acts as a ventilation engine, drawing air through the plinth and up through the stacked modules. Evaporative cooling, shading and cross-ventilation are reinforced by deep thresholds, verandas and shaded arcades that function as climatic buffers and social interfaces. Each typology incorporates a windcatcher module as a fixed climatic anchor within the stacking logic. The windcatcher is not an optional add-on but a core spatial and environmental component that shapes the orientation, internal airflow and microclimate of every house type. Its position is determined by the 7.2 × 12 m grid and the prevailing wind directions identified during the site analysis, ensuring that every household—regardless of plot size or typology—benefits from passive ventilation.





4. Conclusion

The project demonstrates that reconstruction can be guided by a clear architectural system rather than a fixed final form. A durable plinth, an optimised family of concrete modules and a set of incremental rules together create a framework that is stable enough to rely on and open enough to grow with its residents. The design shows how long-life structure and short-life infill can work together: the plinth anchors collective life, the modules provide safe and efficient construction, and the extension-ready bays allow households to expand gradually.

The five typologies—single shopkeeper, maker couple, supportive household, family builder and family supporter—translate this system into lived scenarios. Each one integrates a windcatcher, a public-to-private vertical sequence and a pair of extension-ready spaces that support adaptation over time. Material choices, from ribbed concrete shells to earth-based infill and modular façades, reinforce both climatic performance and cultural continuity.

Overall, the project proposes an approach to housing that is resilient, incremental and rooted in everyday life. Instead of delivering a finished object, it establishes a method that supports agency, identity and long-term growth—an architecture that can evolve with its community rather than constrain it.

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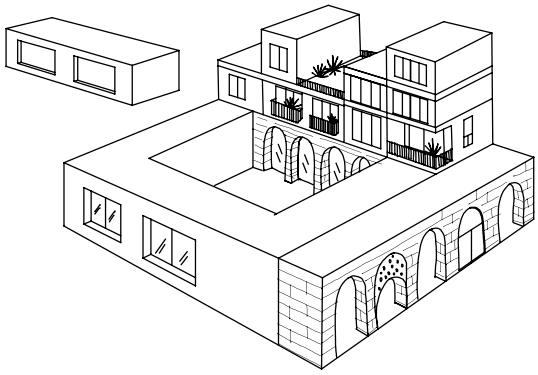
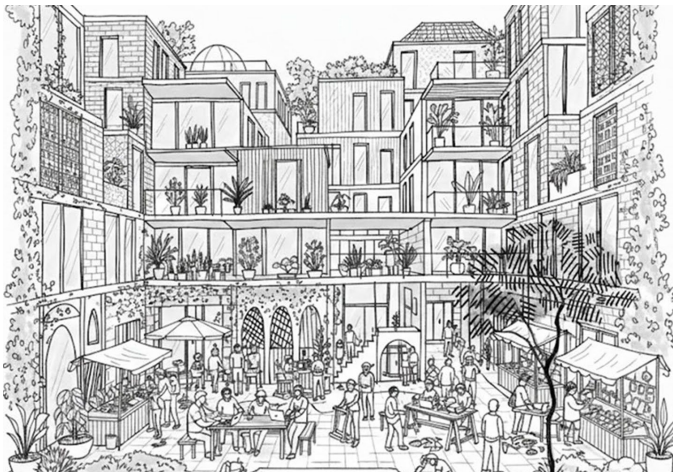
Appendix 4. Design Process

The project is grounded in the recognition that post-disaster reconstruction is often dominated by the technical imperatives of speed, efficiency, and cost. While these priorities address urgent shelter needs, they also risk producing standardized dwellings detached from the cultural, social, and spatial realities of affected communities. As the literature demonstrates, such approaches suppress agency, erode cultural continuity, and generate environments that residents resist, abandon, or extensively modify (Rapoport, 1969; Oliver, 2006; Barakat, 2003). This chapter translates the theoretical framework of Architecture as a Trigger for Participation into spatial, environmental, and organizational design strategies. Using the literature which establishes participation as a spatially mediated condition activated through adaptation, negotiation, personalization, and collective management, the design process operationalizes these triggers within a specific site, climate, and cultural context. The project therefore works through a dual lens: on one hand, the architectural system is conceived as a transferable framework that holds at it's core incompleteness, layered control, shared spaces, and negotiable thresholds; on the other hand, its massing, orientation, and programmatic distribution are deeply embedded in the environmental and cultural realities of Homs.

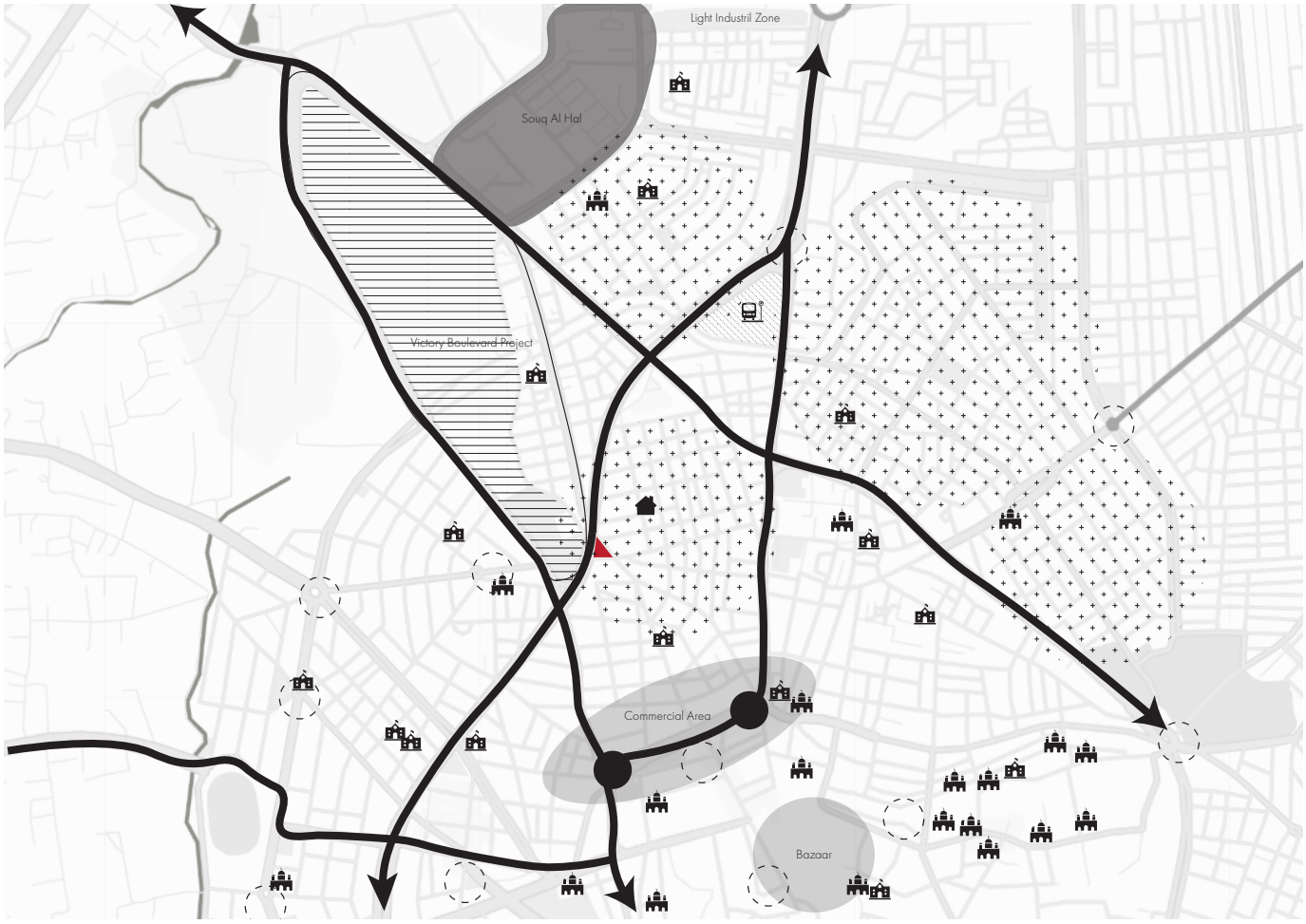




Initial sketches and location google maps screenshots

4.1 Picked Location

Jouret Al-Shayyah was chosen because it is one of the most important and most challenging areas in central Homs. The Homs Urban Profile shows that this neighborhood sits inside Area B, the modern city center, where many of the city's commercial, administrative, and residential functions meet. It is also part of the Homs Boulevard Project, which makes it a highly visible and symbolic location within the city's reconstruction efforts. Jouret Al-Shayyah has experienced severe physical damage, with many buildings destroyed or heavily affected, and all schools currently out of service. Basic services such as water, electricity, sewage, and waste management are unreliable. At the same time, the neighborhood has a high return rate of 40%, showing that many families are coming back despite the difficult conditions. This creates a real need and a real opportunity for thoughtful, community-focused rebuilding. The area also has a mixed-use urban fabric, with residential streets, commercial areas, and administrative services all close together. This makes it a strong location for reactivating daily life once infrastructure and public spaces are improved. The recovery plan identifies Jouret Al-Shayyah as a priority zone, with planned interventions in housing, commercial streets, public spaces, and essential services.
The neighborhood contains vacant and unbuilt land, which allows for flexible, phased development , something that aligns well with a project focused on participation, adaptability, and incremental growth.

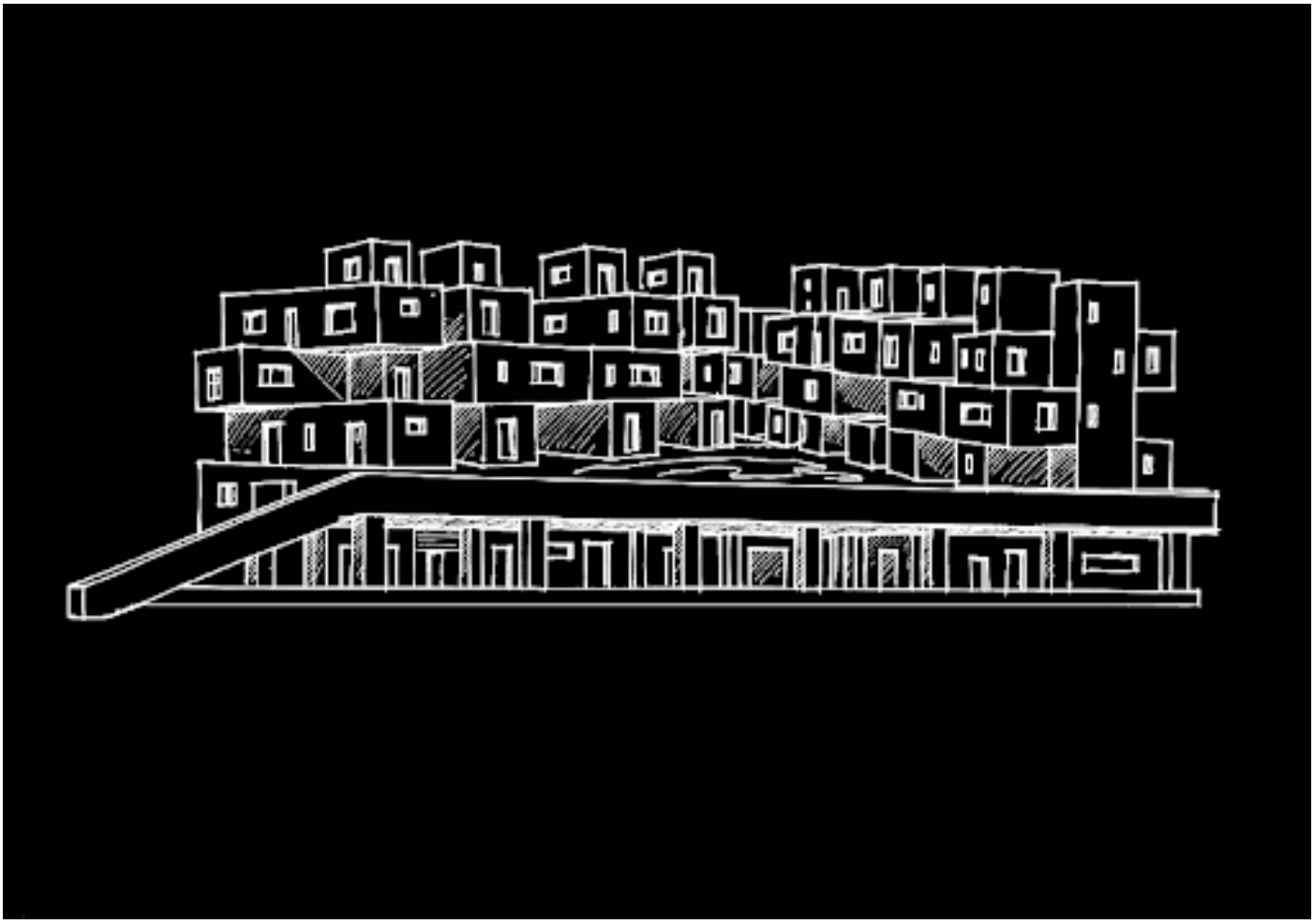


4.2 Strategy, Guiding Theme and Starting Point

Building on the theoretical framework developed in Chapter 3, this project reframes participation not as a procedural event but as a spatially mediated condition. Participation emerges when architecture enables residents to act upon their environment by adapting, negotiating, personalizing, and collectively managing space over time. This understanding aligns with Lefebvre's notion that the "right to the city" includes the right to change space, not merely occupy it.

The guiding theme of the project is therefore Architecture as a Trigger for Participation. The theoretical framework defines the main architectural triggers of participation as incompleteness, layered control, shared spaces, and negotiable thresholds. These trigger act as my main guiding principle throught the project. are embedded into the design so that participation unfolds across time, even when early involvement is constrained by emergency timelines or political conditions.

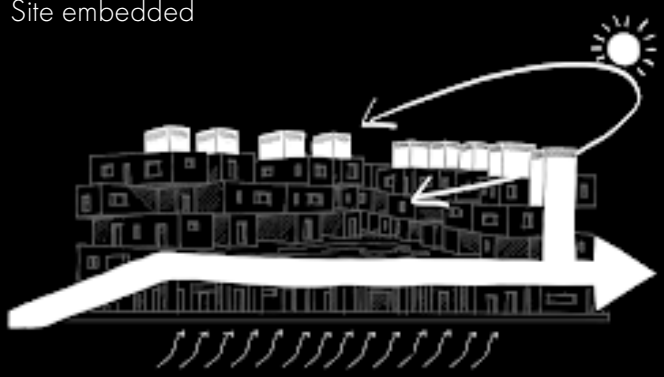
The guiding themes are overlayed with the enviromental context. While the system derives from the theorethical framework, the massing is embedded into the location. Research on wind direction, solar orientation, climate, cultural identity and environmental athmosphere guide the massing and functional layout. Comfort is achieved not through mechanical systems but through mass, shade, and air movement.



First sketch of the building

Shared spaces and negotiable treshholds

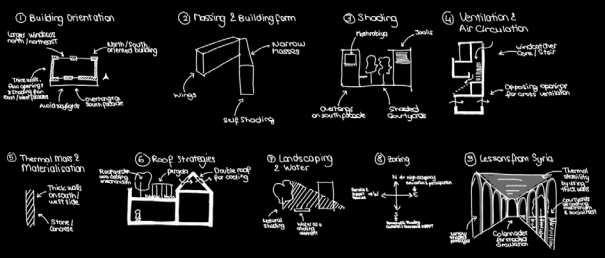
Site embedded



Incompleteness

Layered control

Site embedded



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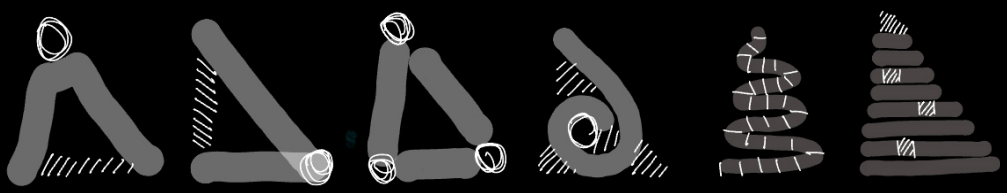
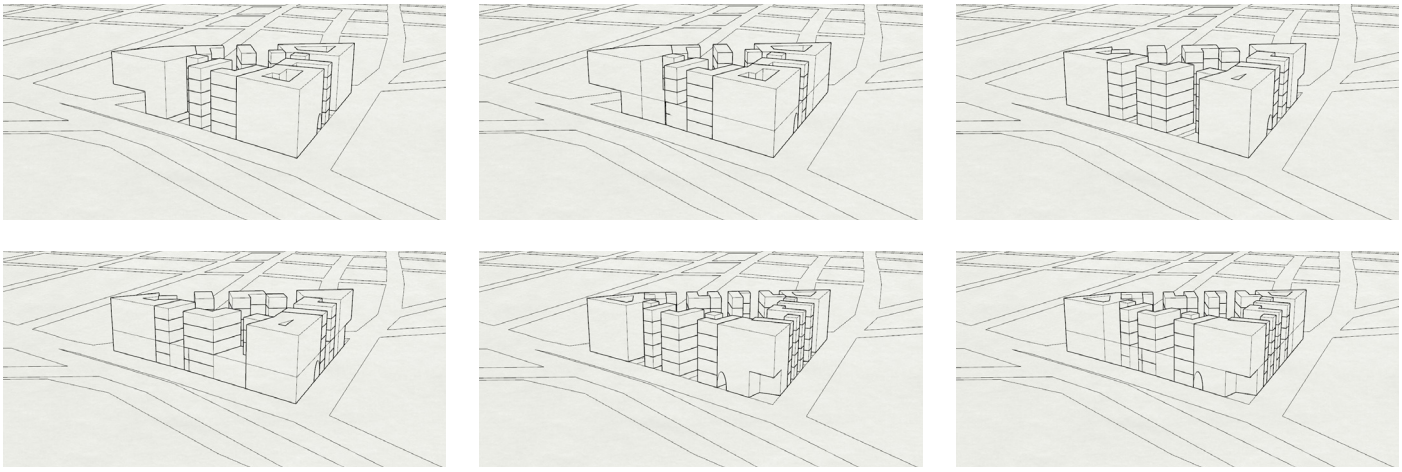


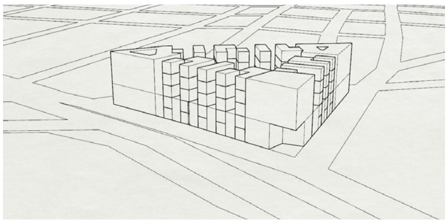
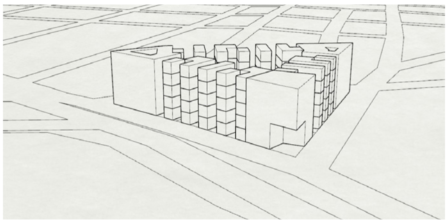
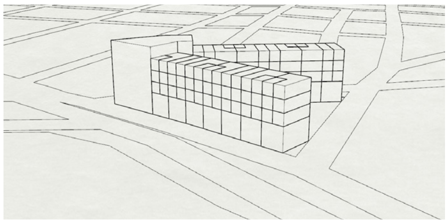
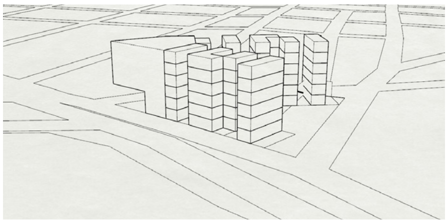
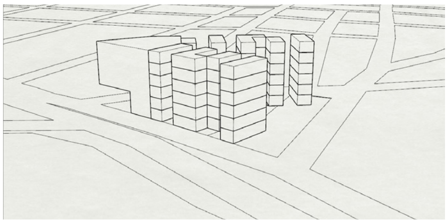
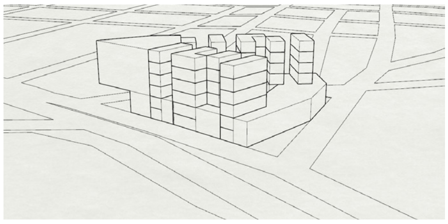
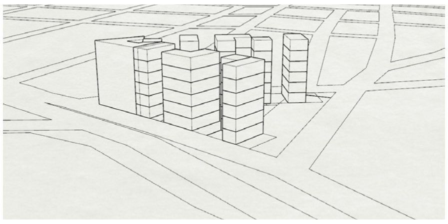
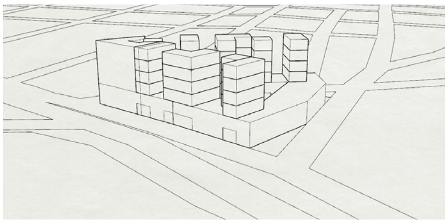
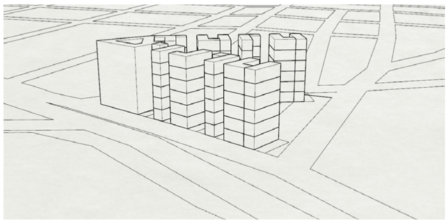
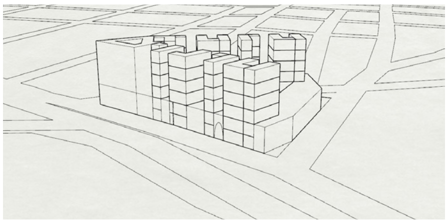
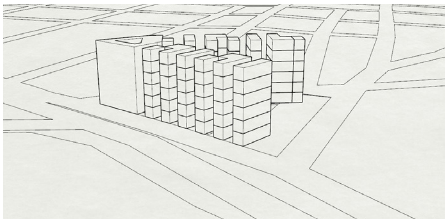
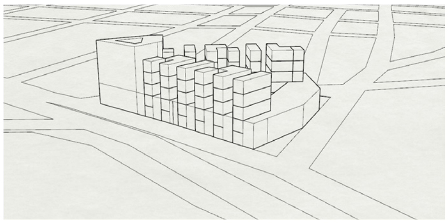
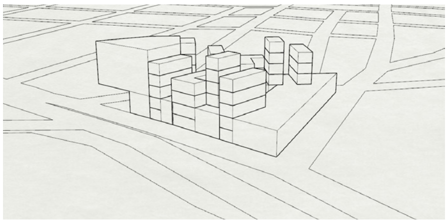
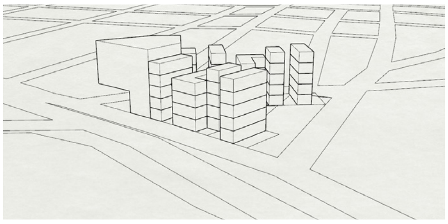
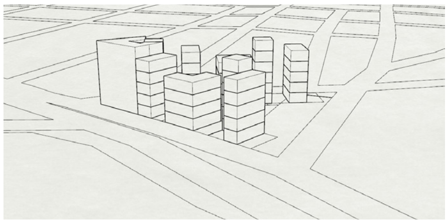
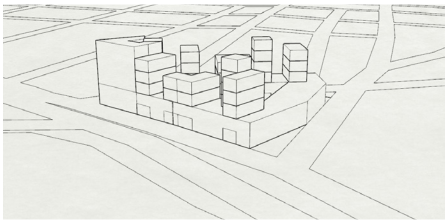
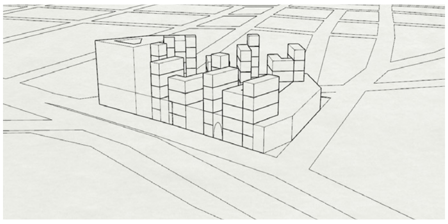
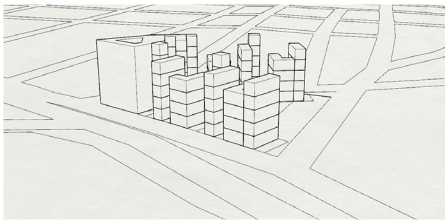
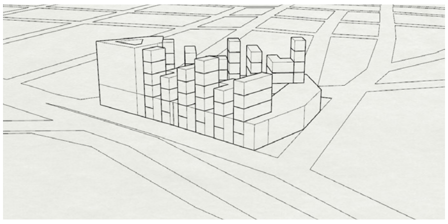
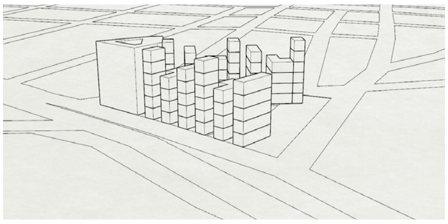
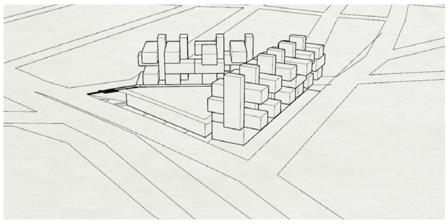
4.2 Massing

While the system is thought as a sustem that is seperated from it's context the organisation of the spaces and the plinth size and form come from the plot itself. The massing strategy synthesizes climatic intelligence with participatory openness. Different volumes of plinth and appartment blocks were testes but using wind and skyline but finally the conclusion was that filling the entire plot with the plinth and having staircase landmarks best fitthe programatic requirements that were derives from a UN study on community spaces. The massing of the housing block on top derived from the wind and sun orientation.

The plinth is therefore conceived as a thick, porous base with a flexible infill. Organized around a courtyard it draws out air, filters light, and creates microclimates while also functioning as social condensers that support informal governance and collective life (Alexander et al., 1977). Above the plinth, the housing is arranged as a cluster of incremental volumes rather than a monolithic block. This fragmentation allows for cross-ventilation, varied orientations, and the possibility for residents to expand or modify their homes over time. Drawing on Turner's incremental housing and Habraken's support–infill theory, the design provides a structural support while leaving room for resident-driven infill and future extensions. This avoids the "abstract space" criticized by Lefebvre and instead produces a layered, adaptable form that anticipates change and supports cultural determinants of dwelling.

As this study was an initial study different grids of 3x3, 4x4 and 5x5 where also tested in order see what was possible in terms of layout and how the spaces would combine within a grid. In the final version a grid of 4x4 was chosen due to it's spatial flexibility while combining spaces and transportation ease.



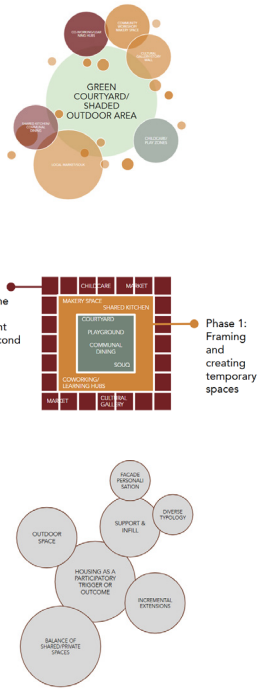






















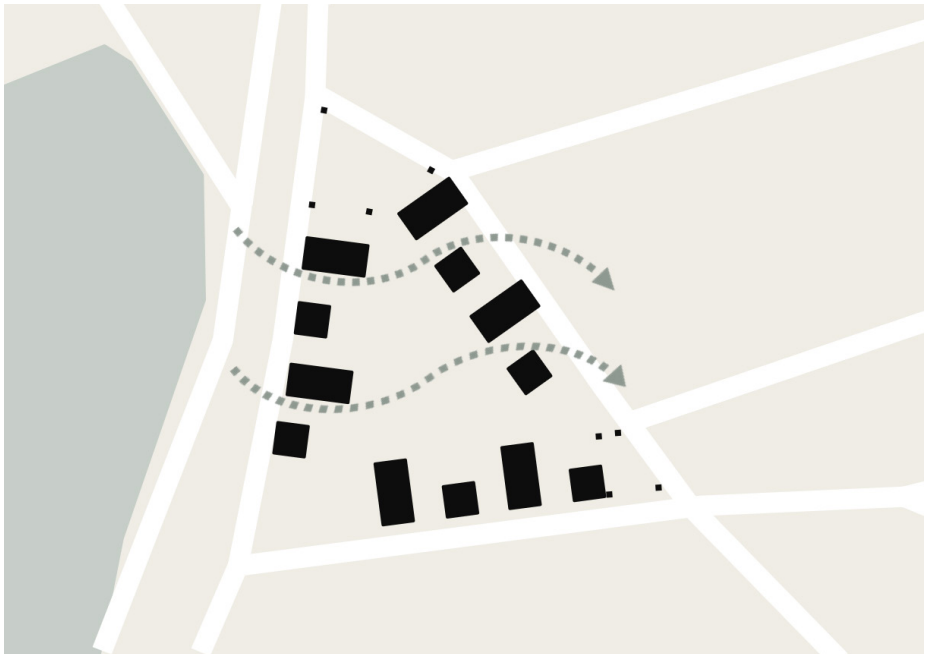
4.2 Plinth Programing

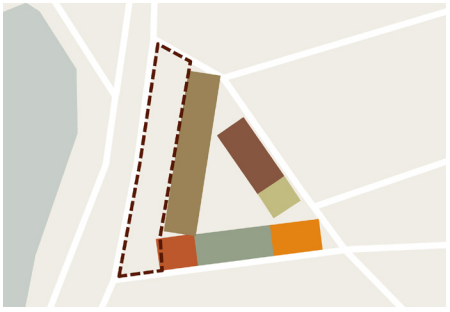
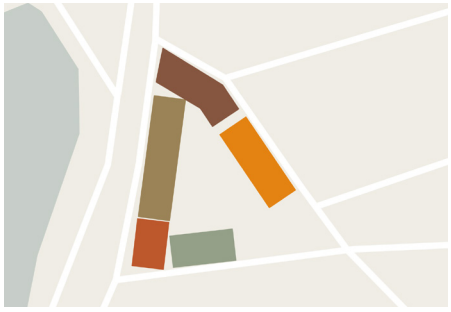
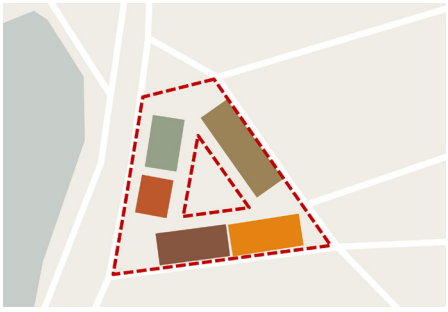
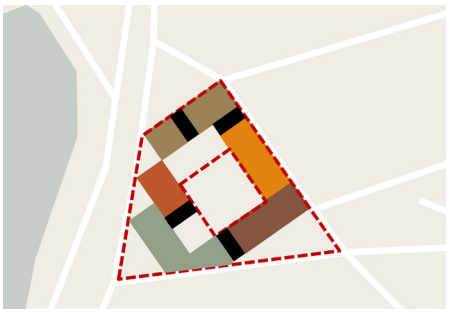
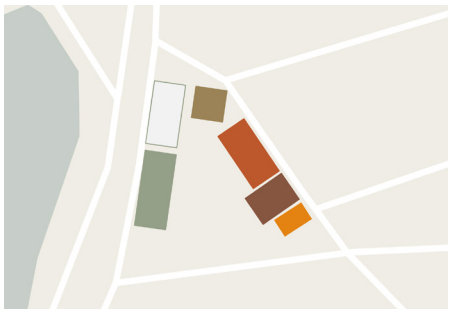
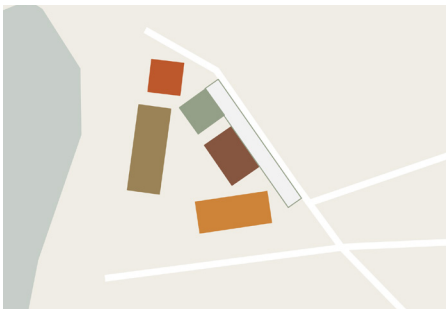
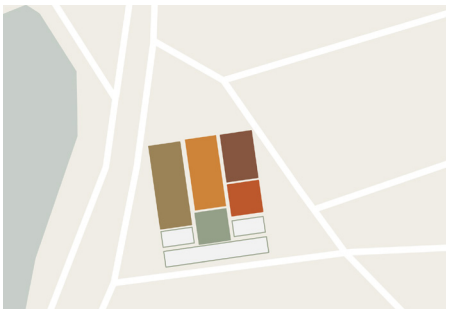
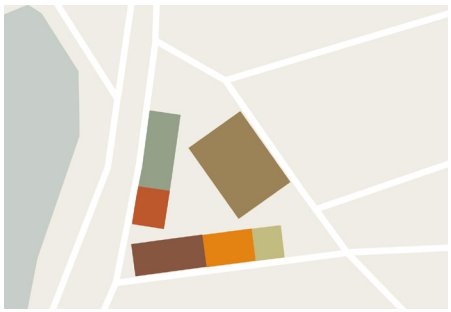
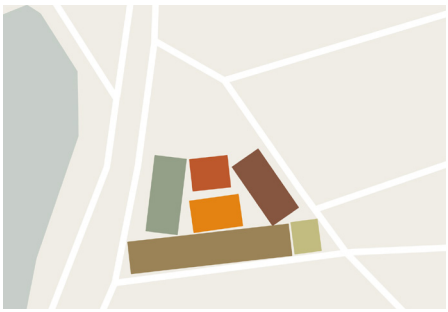
The plinth is the social, economic, and cultural base of the project. Its programming comes directly from the architectural triggers identified in the theoretical framework:

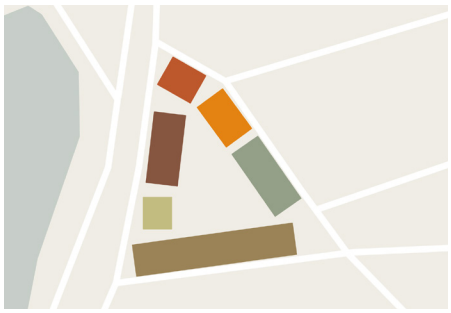
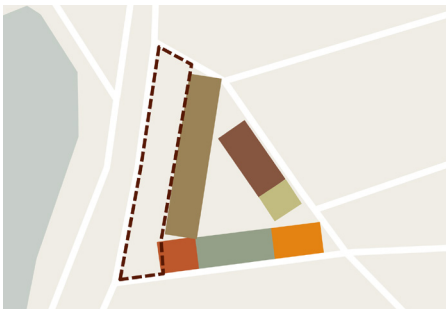
- Shared spaces that create co-presence and informal governance
- Negotiable thresholds that manage public and private areas
- Communal hubs that support participation through frequent gatherings
- Incompleteness and adaptability that allow programs to change

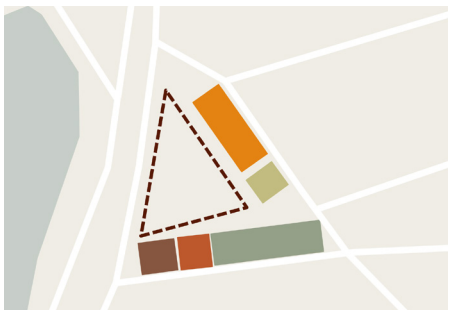
The plinth includes Governance and Participation through community council rooms and Participation decks. These spaces enable residents to manage shared resources together. The functions arranged around a courtyard promote everyday interaction and negotiation. Additionally, Cultural and Ritual spaces, such as cultural activity rooms, exhibition areas, a condolence room, and prayer rooms, support cultural continuity and identity reconstruction. The Care and Psychosocial Support spaces, based on the UN community center guidelines, include counseling rooms, a sensory room, and support rooms. They need high acoustic and climate stability and privacy, with orientations facing northeast. Learning and Livelihoods spaces, like workshops, craft rooms, a library, and classrooms, encourage necessary gatherings. They promote participation through shared production and learning. Economic participation spaces reflect the bazaar's principles of modularity, aggregation, and gradual growth. These are set up for micro-shops, cafés, bakeries, repair bays, and small-scale retail.





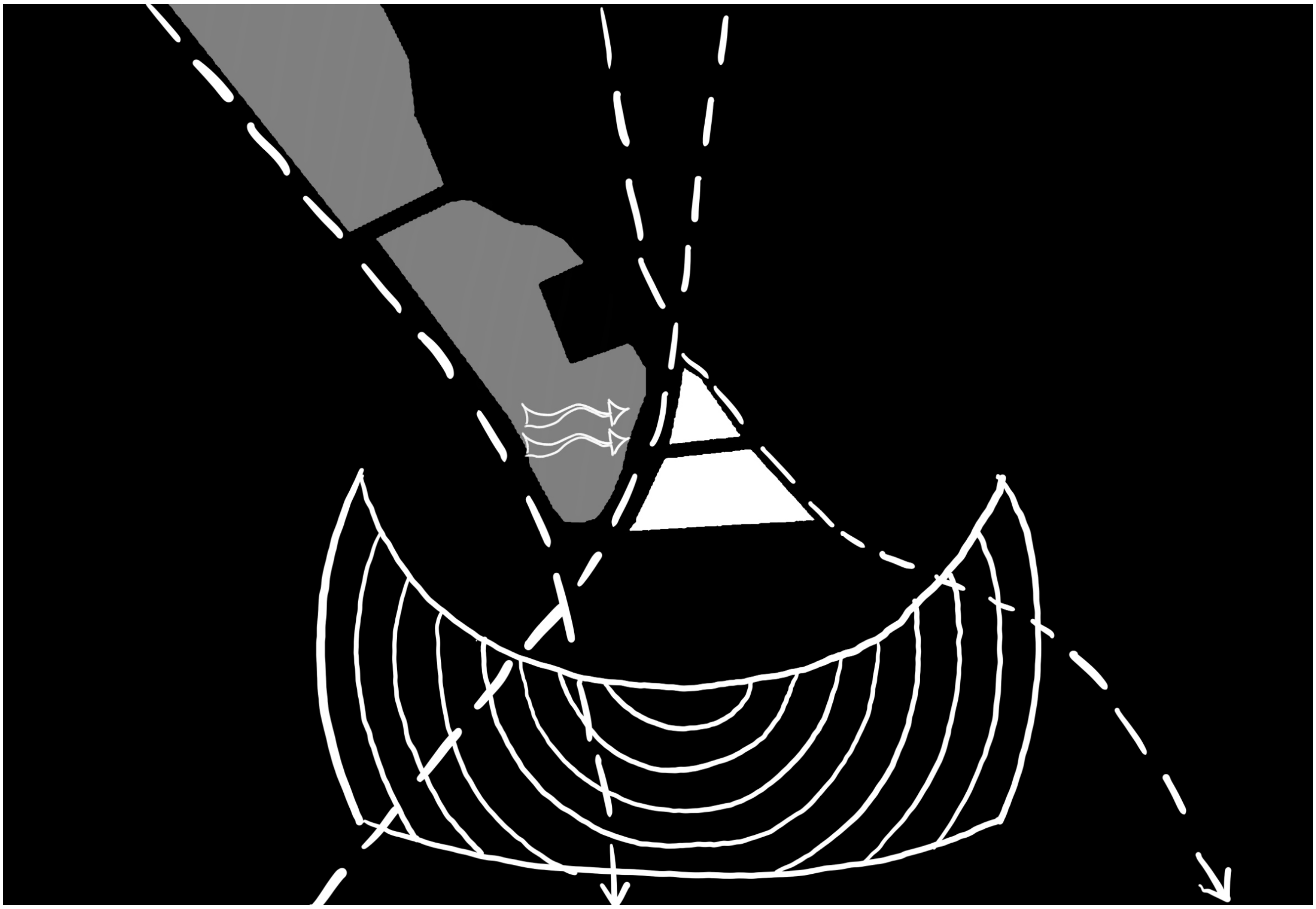










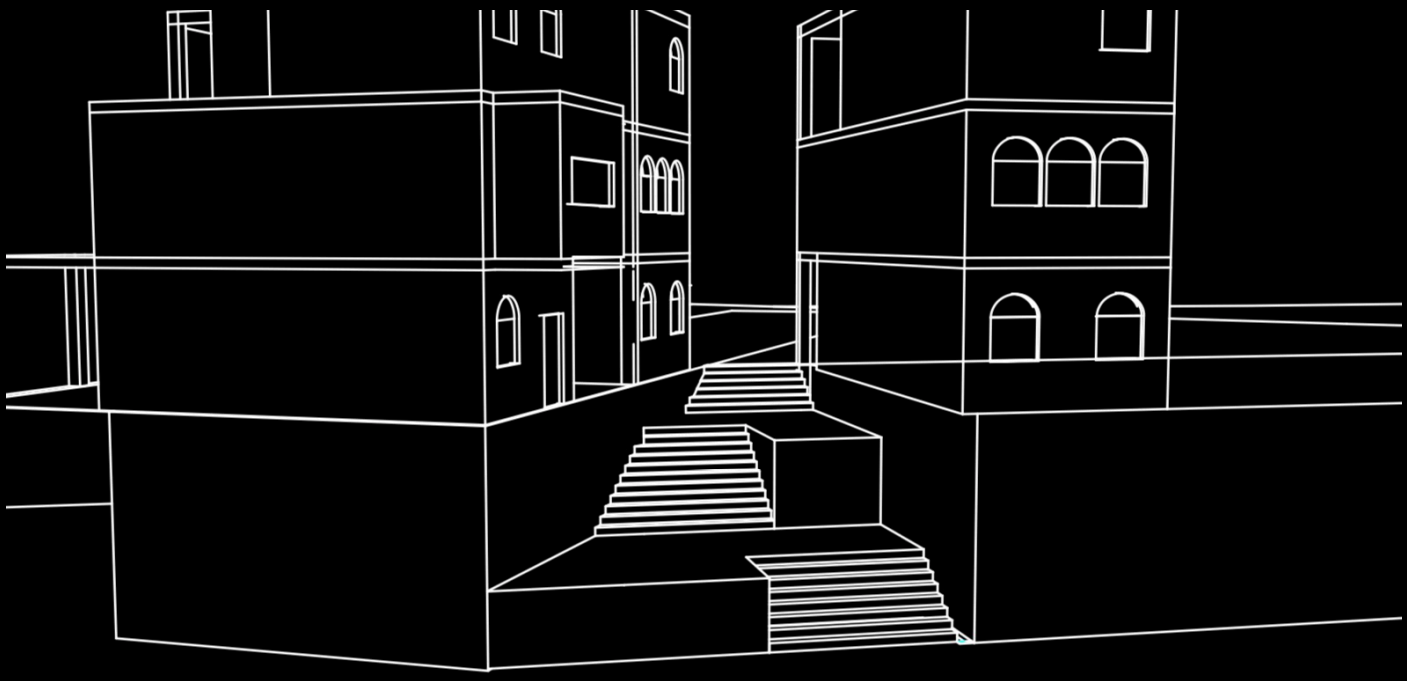



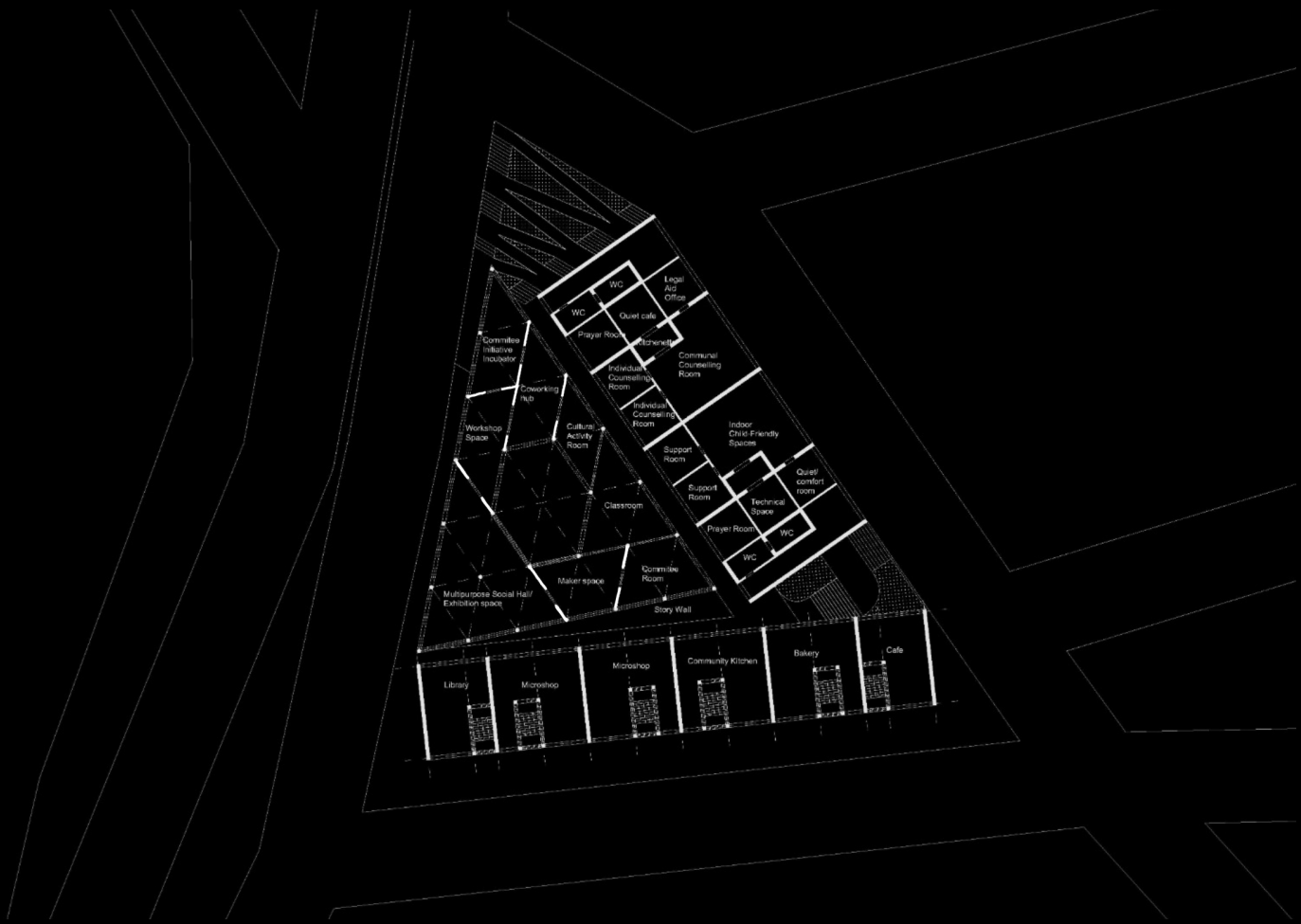



CATEGORY	SPACE	Phase	AREA (m²)	Approximate Area min	Approximate area max	BVO min	BVO max	Column1	Privacy	Flexibility	Privacy Level	Transparancy
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	Participation Deck	Phase 2	-	Extention	Extention			0,00	Outdoor/covered; 3m depth minimum	High	Public	High
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	Community Initiative Incubator	Phase 2	25–30	25,00	30,00	31,25	37,50	2,34	2 small group zones; projector wall	Medium	Semi Private	High
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	Committees Room	Phase 1	20–25	20,00	25,00	25,00	31,25	1,95	Circular seating; whiteboard	Medium	Semi Public	High
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	Workshop Room	Phase 1	35–40	35,00	40,00	43,75	50,00	3,13	6×6m min; large pin-up walls	High	Semi Public	High
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	Scenario/VR Room	Phase 2	20–25	20,00	25,00	25,00	31,25	1,95	Blackout options; 3m ceiling	Medium	Semi Public	High
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Individual Counselling Room (x2)	Phase 1	12–15	24,00	30,00	30,00	37,50	2,34	3×4m min; 1.2m armchairs separation; soundproof door	Low	Highly Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Quiet/comfort room for trauma sensitive de-escalation	Phase 1	8–12	8,00	12,00	10,00	15,00	0,94	Soft lighting, 2.2m min ceiling, corner free	Low	Highly Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Dedicated women & children only counselling space	Phase 1	12–15	12,00	15,00	15,00	18,75	1,17	Discreet entry; frosted glazing; 3m min width	Low	Highly Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Communal Counselling Room	Phase 1	40–50	40,00	50,00	50,00	62,50	3,91	6×8m; movable seats; soft acoustic surfaces	High	Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Legal Aid Office	Phase 1	12–15	12,00	15,00	15,00	18,75	1,17	2 desks; 1 visitor table; storage wall	Low	Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Support Rooms (2 to 3)	Phase 1	12–15	36,00	45,00	45,00	56,25	3,52	Storage + case rooms; controlled access	Low	Private	Low
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Outdoor Safe Play Area	Phase 1	Variable (100–150)	-	-			0,00	Shade; safe surfacing	High	Public	Medium
CORE PROTECTION & SOCIAL SUPPORT SERVICES	Indoor Child-Friendly Space	Phase 1	50–60	50,00	60,00	62,50	75,00	4,69	Soft flooring; 3m ceiling	Medium	Semi Private	High
LEARNING, EDUCATION & VOCATIONAL SPACES	Library / Reading	Phase 2	20–25	20,00	25,00	25,00	31,25	1,95	Quiet zone; soft seating; low shelves	Medium	Public	Medium
LEARNING, EDUCATION & VOCATIONAL SPACES	Homework Café	Phase 2	20–25	20,00	25,00	25,00	31,25	1,95	Café tables; good visibility	Medium	Semi Public	Medium
LEARNING, EDUCATION & VOCATIONAL SPACES	Accelerated Classrooms (x2)	Phase 1	40–45	80,00	90,00	100,00	112,50	7,03	7×6m; 20–25 desks; daylight	High	Semi Public	Medium
LEARNING, EDUCATION & VOCATIONAL SPACES	Skill Centers (x2)	Phase 1	25-30	50,00	60,00	62,50	75,00	4,69	Durable floors; sink;Ventilation; tool storage; 6×5m min	High	Semi Public	Medium
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Market stalls	Phase 2	40–50	40,00	50,00	50,00	62,50	3,91	3–4 kiosks; 2.4m frontage each; Inside the courtyard	High	Public	High
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Small retail kiosks	Phase 2	25–30	25,00	30,00	31,25	37,50	2,34	Service counter; storage	High	Public	High
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Adult learning classroom	Phase 1	25–30	25,00	30,00	31,25	37,50	2,34	Seminar layout	Medium	Semi Public	High
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Community kitchen + dining	Phase 1	35–40	35,00	40,00	43,75	50,00	3,13	Industrial + domestic appliances	Medium	Semi Public	High
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Co-working hub	Phase 2	30–35	30,00	35,00	37,50	43,75	2,73	Shared desks; lockers	High	Semi Public	High
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	Maker space	Phase 1	25–30	25,00	30,00	31,25	37,50	2,34	Tool wall; extractor fans	High	Semi Public	High
SPACES FOR CULTURE, MEMORY & IDENTITY	Story Wall Gallery	Phase 2	15–20	15,00	20,00	18,75	25,00	1,56	Linear wall runs; 1.2m circulation	Medium	Public	High
SPACES FOR CULTURE, MEMORY & IDENTITY	Multipurpose Social Hall/Exhibition Hall	Phase 1	120	120,00	120,00	150,00	150,00	9,38	10×12m; 4m ceiling; divisible	Very High	Public	High
SPACES FOR CULTURE, MEMORY & IDENTITY	Outdoor Courtyard	Phase 1	100–150	-	-			0,00	Shade; trees; 6m clear span	Very High	Public	High
SPACES FOR CULTURE, MEMORY & IDENTITY	Women's Prayer Room	Phase 1	20–25	20,00	25,00	25,00	31,25	1,95	Ablution nearby; carpeted	Low	Semi Private	Low
SPACES FOR CULTURE, MEMORY & IDENTITY	Men's Prayer Room	Phase 1	40–60	40,00	60,00	50,00	75,00	4,69	Orientation to Qibla; shoe racks	Low	Semi Private	Low
SPACES FOR CULTURE, MEMORY & IDENTITY	Women's Bathroom	Phase 1	25–30	25,00	30,00	31,25	37,50	2,34	3–4 stalls, 2 sinks	Low	Semi Private	Low
SPACES FOR CULTURE, MEMORY & IDENTITY	Men's Bathroom	Phase 1	25–30	25,00	30,00	31,25	37,50	2,34	2 stalls, 2 urinals, 2 sinks	Low	Semi Private	Low
SPACES FOR CULTURE, MEMORY & IDENTITY	Cultural Activity Room	Phase 2	20–25	20,00	25,00	25,00	31,25	1,95	Sink; storage; open floor	High	Semi Public	High
Total	31			897,00	1072	1121,25	1340,00					

	Unit	Percentage (%)	Area min (m²)	Area max (m²)	Area average (m²)	Percentage (%)	
CORE PROTECTION & SOCIAL SUPPORT SERVICES	8	26%	100,00	120,00	110,00	12%	7,5
COMMUNITY PARTICIPATION & GOVERNANCE SPACES	5	16%	182,00	227,00	204,5	22%	14,1875
LEARNING, EDUCATION & VOCATIONAL SPACES	4	13%	170,00	200,00	185	20%	12,5
SPACES FOR CULTURE, MEMORY & IDENTITY	8	26%	140,00	165,00	152,5	16%	10,3125
LIVELIHOODS & ECONOMIC PARTICIPATION SPACES	6	19%	265,00	310,00	287,50	31%	19,375
	31	100%	857	1022	939,50	100%	






WC
Legal Aid Office
WC
Quiet cafe
Prayer Room
Kitchenette
Communal Counselling Room
Individual Counselling Room
Individual Counselling Room
Indoor Child-Friendly Spaces
Support Room
Quiet/ comfort room
Support Room
Technical Space
Prayer Room
WC
WC
Committee Initiative Incubator
Coworking hub
Workshop Space
Culture Activity Room
Classroom
Committee Room
Maker space
Multipurpose Social Hall/ Exhibition space
Story Wall
Library
Microshop
Microshop
Community Kitchen
Bakery
Cafe

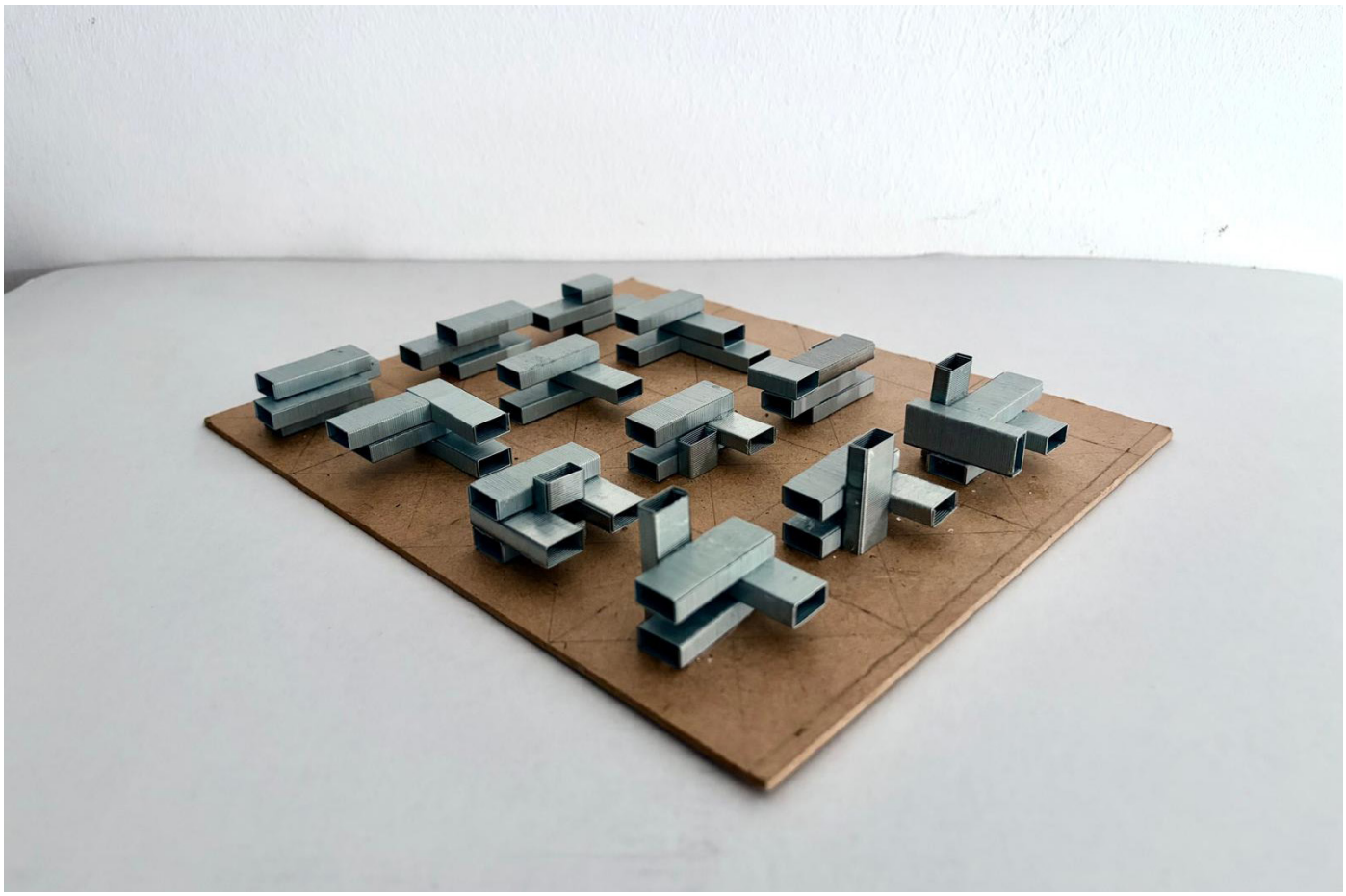
4.2 Typologies

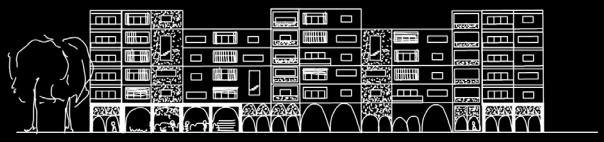
The housing above the plinth is built around the three typological families outlined in the theoretical framework:

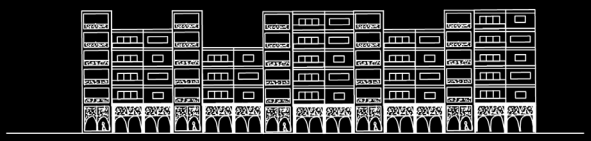
1. Incremental Housing (Incompleteness and Adaptability)
Units are delivered as serviced cores with extension-ready structural bays. Residents complete, expand, and modify their homes over time. They embed cultural identity through self-built adaptations. This sequencing of agency combines emergency delivery with long-term participation.

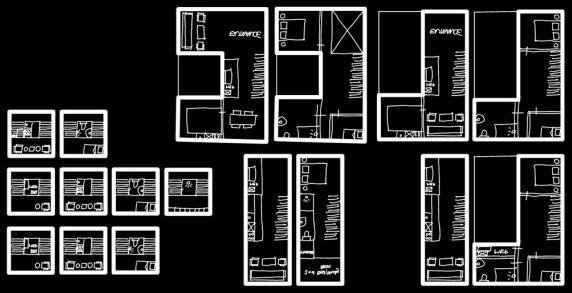
2. Support-Infill (Layered Control)
The project offers a durable structural support system, including foundations, frame, and services. Residents have control over the infill, which includes partitions, thresholds, façade screens, and interior layouts. This setup reduces post-occupancy conflict and legitimizes personalization.

3. Courtyard and Threshold-Based Organization (Negotiable Boundaries and Shared Space)
Units are arranged around shared or semi-private courtyards and layered thresholds. These spaces mediate public and private realms. They support gendered practices and create “soft edges” where negotiation, social interaction, and gradual change can happen.

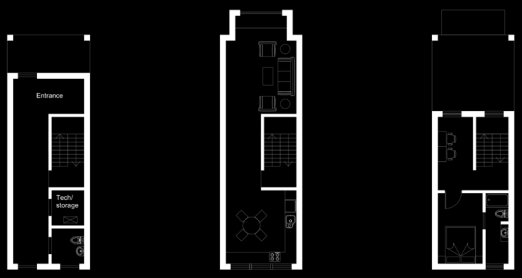




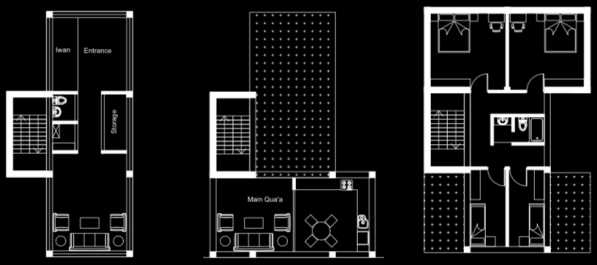




1 bedroom half unit

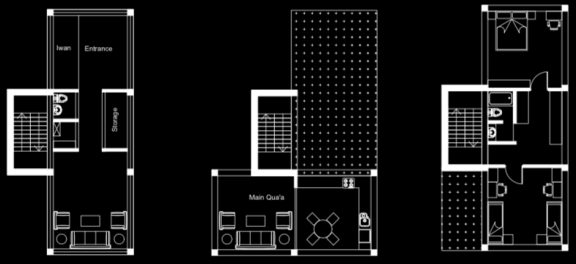


4 bedroom full unit

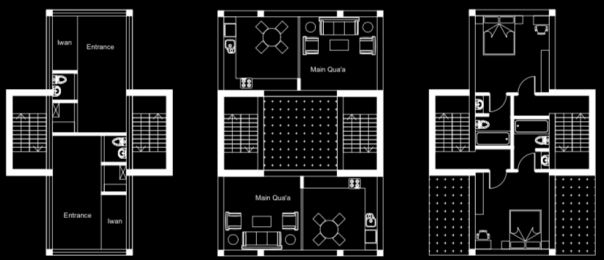


1 bedroom full unit

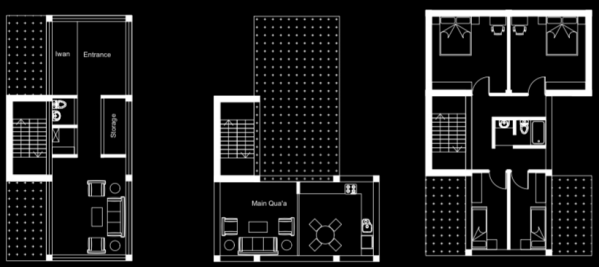
2 bedroom full unit



Double Core full unit



3 bedroom full unit



5. Thesis

1 Introduction

After more than a decade of war in Syria, the fall of Bashar al-Assad's regime the World Bank estimated that the reconstruction of Syria would cost between $141 billion and $343 billion, around $216 Billion. A couple of month before the World back estimation, Syrian Minister of Economy and Industry Mohammed Nidal al-Shaar claimed that "at least $1 trillion" was needed to "reconstruct and rebuild a new Syria" Last fall, a reconstruction fair was hosted in the outskirts of Damascus promising an "economic breakthrough" where "the future of the new Syria is written." (Deknatel,2026) However a year after Assad's fall, reconstruction barely exists in Syria, beyond large investment deals pledged on paper with foreign companies, many from Turkey and the Gulf.

In Homs, these top down plannings have created social tension and resistance, projects such as the Al-Nasr Boulevard Project caused protests over displacement and lack of transparency ending subsequently the development. Local backlash was immediate, while the population compared it to Homs Dream. A crony real estate project by the regime, that became a synonym for land seizures, forced evictions, and corruption.

Post-disaster housing often prioritizes speed and economic efficiency over cultural identity in order to deal with the strong budget, time and material limitations. However in Homs an additional layer of intricacy is the question of who owns the space and the right to reinscribe it. Al Jazeera (2024) states that "Rebuilding Syria requires much more than bricks and mortar', it requires the repair of the social fabric that holds Syrian people together.

When reconstruction processes prioritize speed and economic efficiency often through prefabricated systems they negate this right, producing what Lefebvre terms "abstract space": standardized, homogenized environments detached from lived experience. This is the core issue in many redevelopment projects in Homs: the lack of user inclusion throughout the recovery process. His concept of the "Right to the City" asserts that inhabitants must have the ability to shape and modify their environments, preserving cultural identity through spatial agency (Lefebvre, 1996). In Homs, the absence of agency has not been a theoretical concern but a catalyst for public resistance, protests, and abandonment of planned redevelopment. What these cases reveal is that the challenge is not only participation before building, but participation enabled by building. Post-disaster housing typically delivers completed, standardized units under intense time and resource constraints. Yet such fixity denies residents the right "to change space," which Lefebvre considers fundamental to the Right to the City. In Homs, the absence of agency has not been a theoretical concern but a catalyst for public resistance, protests, and abandonment of planned redevelopment. What these cases reveal is that the challenge is not only participation before building, but participation enabled by building.

This project therefore departs from the conventional focus on participatory processes and instead examines how architectural design itself can trigger participation — especially when formal engagement is impossible or constrained. Participation is understood not as a workshop or consultation, but as a spatial condition that emerges through use, adaptation, personalization, informal negotiation, and incremental change.

This reframing leads to the main research question: How can architectural design trigger and enable community participation in post-disaster reconstruction? To answer this question, the research first examines how participation operates as a form of spatial agency, how cultural determinants of dwelling shape spatial needs, and how certain architectural systems inherently generate participatory behaviour. The literature review builds a theoretical foundation for understanding participation as something that can be architecturally enabled through typologies such as incremental housing, support–infill systems, courtyards, thresholds, and communal hubs.

The case of Homs is then analysed as a counter-example, demonstrating what happens when reconstruction ignores spatial agency: rigid typologies, erased thresholds, loss of shared spaces, and the disappearance of gradual, culturally meaningful adaptation. These lessons reveal where participation has been spatially suppressed — and where it must be reintroduced.

Finally, the thesis develops a theoretical and design framework that identifies architectural triggers, typologies, and time-based mechanisms through which participation can unfold after occupancy. This framework is translated into spatial prototypes for a pilot block in Homs, embedding triggers such as adaptable

thresholds, support–infill structures, shared courts, and extension-ready zones that encourage residents to engage, negotiate, and transform space over time. The ambition is to create a building that not only houses but re-empowers, serving as a prototype for community-driven recovery in Homs and similar contexts.
Post disaster reconstruction is dominated by the technicalities of speed, cost, efficiency and logistical coordination. These priorities address the urgent need for housing, however they subsequently also reduce dwellings to standardized products detached from the social, cultural, and spatial realities of affected communities. Such approaches undermine long term recovery by suppressing agency, eroding cultural continuity, and producing environments that residents resist, abandon, or extensively modify. In this literature review participation is examined as a spatial phenomenon, arguing that form, typology, and adaptability trigger and enable participation. The review is structured around four themes: participation and agency in the built environment; cultural determinants of dwelling; space, power, and alienation; and architectural systems that enable participation.
material availability. Different ritualistic orientations reflects itself sometimes more in the layouts than materialistic factors, for example, as seen in Feng Shui practices in China. Rapoport demonstrates that physical barriers

2 Approach

The aim of this graduation project is to develop a spatial framework that enables participation to emerge even under the constraints of emergency reconstruction. Rather than relying on intensive front-loaded participatory processes — often unrealistic in post-conflict Syria — the approach focuses on how architectural triggers can support cultural identity, ownership, and collective agency through space itself.
The research therefore combines:
- Literature synthesis on spatial agency, cultural determinants of dwelling, incremental and Open Building systems, and typologies that inherently support participation.
- Case study analysis of Homs as a spatial failure, identifying where and how architectural decisions suppressed agency.
- Design-research to translate theoretical triggers into architectural carriers for a pilot reconstruction block.

Together, these components provide the basis for a framework that repositions architecture from a static product to a scaffold for participation, capable of evolving with the community over time.
Post disaster reconstruction is dominated by the technicalities of speed, cost, efficiency and logistical coordination. These priorities address the urgent need for housing, however they subsequently also reduce dwellings to standardized products detached from the social, cultural, and spatial realities of affected communities. Such approaches undermine long term recovery by suppressing agency, eroding cultural continuity, and producing environments that residents resist, abandon, or extensively modify. In this literature review participation is examined as a spatial phenomenon, arguing that form, typology, and adaptability trigger and enable participation. The review is structured around four themes: participation and agency in the built environment; cultural determinants of dwelling; space, power, and alienation; and architectural systems that enable participation.

2.1 Participation, Agency, and the Built Environment

Participation in architecture and planning is defined as a procedural activity characterized by consultations, workshops, and co-design sessions before. However, researchers are increasingly starting to define agency exercised not only through formal decision-making but also through use, adaptation, modification, and appropriation of space as the key definer (Sanoff, 2000; Sanders & Stappers, 2008; Luck, 2018). Sanoff (2000) highlights the importance of recognizing residents as active actors whose daily practices continuously shape space, instead of treating them as passive recipients. Sanoff (2000) emphasizes that participation improves outcomes when users are able to influence and reinterpret their environment over time.
Sanders and Stappers (2008) conceptualize participation in a similar way to co-creation, a process that goes beyond design phases at the beginning and extends to long-term involvement with the built environment. Luck (2018) regards participation as a dialogical relationship between people and space, in which architecture mediates agency by enabling or

constraining action. These perspectives are particularly relevant in post-disaster contexts, where emergencies often limit early involvement. In such situations, participation cannot rely solely on procedural mechanisms. Instead, it must be spatially enabled so that residents can exercise their agency through inhabitation, personalization, and collective use after transfer. Architecture thus becomes a platform for participation, capable of activating agency through its affordances. This shift from participation as procedure to participation as spatial condition provides a critical lens for understanding how design can activate engagement even under constrained timelines.

2.2 Cultural Determinants of Dwelling

Successful reconstruction must place cultural identity and inclusivity at its core reflecting worldviews, social practices, and aspirations for an "ideal life". Rapoport (1969) and Oliver (2006) warn that disregarding cultural norms undermines belonging and continuity, often leading to displacement and alienation even after physical resettlement. Rapoport argues that dwellings are shaped by cultural determinants as much as by functional or economic considerations: "form follows culture" as much as function. Ancestral norms and environmental adaptations are deeply ingrained in everyday practices, spatial arrangements, material choices, and decorative. Oliver highlights the risk of erasing marginalized narratives and distrupting social cohesion by replacing these deep structures with standardized, industrialized housing during reconstruction which would have major psychological and social consequences. Oliver's work on vernacular architecture showcases the significance of safekeeping anchored norms that evolved through centuries of cultural negotiation and embed collective memory into the built environment. Treating housing as cultural infrastructure means designing for continuity rather than rupture which encorporates preserving vernacular principles,enabling personalization, and embedding participatory mechanisms that allow communities to express identity.

Dwellings are visible expressions of societal values—family structures, diverse lifestyles, religious beliefs, kinship hierarchies, social interactions, and domestic routines while adapting to climate, site conditions, and material availability. Different ritualistic orientations reflects itself sometimes more in the layouts than materialistic factors, for example, as seen in Feng Shui practices in China. Rapoport demonstrates that physical barriers and social conventions over topics such as privacy are shaped by the cultures attitudes toward shame, territoriality, and gender roles. Examples range from symbolic withdrawal in open communal houses among the Yagua of the Amazon to inward-facing courtyard houses in India and Iran. Japanese and Yoruba housing patterns use transitional spaces to mediate public and private realms, challenging the notion of privacy as a universal need.

Ignoring these "deep structures", codes of behavior and belief systems, produces "ghost towns" where housing is abandoned or remodeled at great expense. In Turkey, government-provided houses were modified because designs failed to provide expected privacy or social spaces. Empirical studies confirm these patterns: Barakat (2003) documents abandonment and costly alterations in culturally insensitive housing; Davidson et al. (2007) note failures where reconstruction ignored extended family arrangements or gendered spatial norms. Cultural identity is therefore not peripheral, it is a central determinant of housing success and architecture must anticipate cultural variability, accommodating modification, personalization, and negotiation. Architectural strategies, such as incremental housing, support–infill, and courtyard typologies, trigger participation by enabling residents to realign space with cultural expectations after handover.

2.3 Space, Power, and Alienation

Alienation emerges from the ashes of cultural identity and therefore in order to restore agency participatory mechanisms must be integrated into the all recovery process's. Designing for agency is therefore essential for environments that support physical resettlement and psychological renewal.

Mass-housing models often treat communities as an undifferentiated "mass," producing standardized components devoid of cultural meaning. Rapoport (1969) warns against "universal" solutions that ignore cultural variation, eroding identity and failing to meet real needs. Lefebvre (1996) conceptualizes this alienation as "abstract space"—commodified environments detached from lived experience. In such spaces, inhabitants lose the ability to exercise agency, reducing

housing to a passive backdrop rather than an active framework for social life. Alienation is a manifestation of standardized typologies that fail to accommodate extended families, gendered norms, and cultural practices. Davidson et al. (2007) document overcrowding and informal modifications in nuclear-family designs imposed on multi-generational societies. Barakat (2003) notes abandonment and costly alterations when reconstruction ignores cultural codes. Ignoring "deep structures" produces "ghost towns" where housing is rejected or remodeled at great expense.
Agency is a vital factor for resilience and its absence undermines well-being and erodes social networks. In Homs, Syria, the absence of agency fueled mass protests and resistance towards large-scale redevelopment. The Al-Nasr Boulevard case illustrates how top-down planning, devoid of participation, triggered protests and unrest. Such outcomes underscore Lefebvre's assertion that "the right to the city is not merely a right of access to what already exists, but a right to change it" (1996, p. 58). Reconstruction that ignores this right transforms housing into an instrument of control rather than a medium for cultural expression, deepening alienation and undermining recovery.
thresholds, support–infill structures, shared courts, and extension-ready zones that encourage residents to engage, negotiate, and transform space over time. The ambition is to create a building that not only houses but re-empowers, serving as a prototype for community-driven recovery in Homs and similar contexts.
Post disaster reconstruction is dominated by the technicalities of speed, cost, efficiency and logistical coordination. These priorities address the urgent need for housing, however they subsequently also reduce dwellings to standardized products detached from the social, cultural, and spatial realities of affected communities. Such approaches undermine long term recovery by suppressing agency, eroding cultural continuity, and producing environments that residents resist, abandon, or extensively modify. In this literature review participation is examined as a spatial phenomenon, arguing that form, typology, and adaptability trigger and enable participation. The review is structured around four themes: participation and agency in the built environment; cultural determinants of dwelling; space, power, and alienation; and architectural systems that enable participation.

material availability. Different ritualistic orientations reflects itself sometimes more in the layouts than materialistic factors, for example, as seen in Feng Shui practices in China. Rapoport demonstrates that physical barriers

2.4 Architectural Systems that Enable Participation
While most of the literature about participation describes it as a planning process, a growing body of architectural theory demonstrates that built form itself can enable, trigger, and structure participation, particularly in contexts where early involvement is restricted by emergency timelines or political conditions. Certain typologies and spatial systems inherently support adaptation, negotiation, personalization, and collective use, transforming residents into active co producers of space through everyday inhabitation rather than formal consultation. This section reviews three architectural systems,incremental housing, support–infill, and courtyard/threshold-based spatial organizations, that are proven to generate participatory behaviours.

2.4.1 What Is an Architectural Trigger?
In this thesis, an architectural trigger is defined as: A spatial condition, architectural system, or typological configuration that enables and activates participation by allowing inhabitants to use, adapt, negotiate, and collectively manage space over time.
This definition builds on scholarship that frames participation as agency expressed through spatial action, rather than as formal involvement in planning processes (Sanoff, 2000; Sanders & Stappers, 2008; Luck, 2018). Participation emerges when residents are able to act upon their environment—by modifying layouts, extending dwellings, appropriating shared spaces, or negotiating boundaries with others. Architectural triggers do not prescribe participation, nor do they depend on organized consultation. Instead, they operate through architectural affordances embedded in form, structure, and spatial organization. These affordances invite participation by:
- deferring decisions rather than finalizing them,
- enabling modification without compromising safety,
- creating shared or semi-public spaces that necessitate interaction,
- allowing space to evolve in response to social and cultural practices.

This understanding aligns with Lefebvre's concept of lived space, which is continuously produced through everyday practices, and with his assertion that the "right to the city" includes the right to change space, not merely occupy it (Lefebvre, 1996). Where architecture fixes space as a completed object, participation is suppressed; where architecture anticipates change, participation becomes possible.

Architectural triggers therefore shift participation from a front-loaded procedural event to a time-based spatial process, particularly relevant in post-disaster contexts where early participation is often constrained by urgency, institutional control, or political instability (Davidson et al., 2007; Barakat, 2003).

2.4.2. Architectural Systems that Enable Participation

Emergency reconstruction can deliver initial stability quickly, while deferring culturally specific, identity-driven adaptations to later stages when residents regain capacity. A staged framework such as the Habraken's Open Building (Habraken, 1972) and Turner's incremental housing (Turner, 1976; Aravena & Iacobelli, 2013) separates the urgent structural delivery from slower cultural adaptation. While most of the literature about participation describes it as a planning process, a growing body of architectural theory demonstrates that built form itself can enable, trigger, and structure participation, particularly in contexts where early involvement is restricted by emergency timelines or political conditions. Certain typologies and spatial systems inherently support adaptation, negotiation, personalization, and collective use, transforming residents into active co producers of space through everyday inhabitation rather than formal consultation. This section reviews three architectural systems,incremental housing, support–infill, and courtyard/threshold-based spatial organizations, that are proven to generate participatory behaviours.

Incremental Housing and User Control

Category	Quinta Monroy	Villa Verde	Monterrey	Lo Barnechea	Constitución
Structure	Concrete frame + party walls	Timber frame	Concrete block load-bearing walls	Concrete frame + party walls	Timber + concrete hybrid
Materials	Concrete, light infill, metal roof	Prefab timber panels, metal roof	Concrete block, cast concrete, metal roof	Concrete, light infill, metal roof	Local timber, concrete base, light cladding
Construction Logic	Half-house: serviced half built	Half gabled house delivered	Starter unit with vertical expansion	Double-height serviced core	Rapid core; expansion on all sides
Program	Core: kitchen, bath, stair, 1 room	Post-disaster core unit	Basic serviced core + 1 bedroom	Compact urban social housing	Emergency + permanent housing
Social Logic	Low-income families; self-building	Post-disaster families	Low-income families needing growth	Low-income families in high-value land	Post-disaster families
Incremental Strategy	Horizontal expansion	Horizontal expansion	Vertical expansion	Vertical infill	Expansion in any direction
Urban Strategy	Row houses + courtyards	Rows + green spaces	Dense fabric + courtyards	Compact stacked row houses	Community clusters
Climate Logic	Cross ventilation	Timber suited to humid climate	Thermal mass for heat	Cross ventilation	Timber suited to coastal climate
Form	Built/void rhythm; rectangular	Gabled; symmetrical when expanded	Simple box; vertical growth	Solid/void; compact	Pitched modules; flexible
Positives	Low cost; strong structure	Fast; sustainable	Durable; densifies vertically	Works in dense urban areas	Rapid; flexible; local materials
Negatives	Irregular expansions	Timber maintenance	Vertical expansion costly	Requires skill; higher cost	Timber vulnerable; irregular growth

Figure 1: Table analysing all the different incremental housing project of Alejandro Aravena

Turner (1976), leaning more towards delegated power, argues even further that housing satisfaction correlates with user control over growth and modification. By sequencing agency rather than eliminating it, emergency timelines no longer negate participation, they reformat it. Turner's work self-help housing demonstrates that user control over decisions, growth, and modification affect majorly the quality and long-term viability of housing (Turner, 1976; Turner, 1968). Turner argues that dwellings should be considered as a dynamic processes, with residents acting as co-producers through incremental extentions, adaptation, and everyday use. Incremental systems empower residents by enabling spatial responses to family growth, privacy norms, economic changes, and cultural practices.

Contemporary applications such as ELEMENTAL's "half-house" model in Chile reaffirm Turner's principles. Aravena and Iacobelli (2013) demonstrate that supplying only the essential half of the dwelling, containing a structural core and service infrastructure, creates deliberate extension-ready space for residents to complete. This architectural incompleteness triggers participation through construction, negotiation, and collective boundary-setting. Importantly, incremental housing enables speed of rehousing while deferring culturally specific finishes and adaptations to the resident community. Incremental frameworks show that participation can be activated architecturally, even when formal engagement is initially infeasible like in post disaster contexts. Incremental housing functions as a participatory catalyst, by engaging residents in spatial decision-making through construction. The self built adaptations ensures that cultural identity is embedded into the reconstruction and that agency is accumulated over time. Finally flexible growth ensures fewer future modification that are one of the main causes for collapses during earthquakes.

Support–Infill and Open Building

A second enabling strategy lies in architectural partitioning of control. Habraken's distinction between support (shared, long-life structure) and infill (short-life, user-controlled elements) offers a powerful model for emergency contexts.

Under this logic, while engineers and authorities control the supports meaning the structure, services, fire safety, and seismic performance, residents retain decision-making power over the infill including layouts, partitions, thresholds, façades, and finishes. Mass customization models such as the Habraken's Support-Infill combines industrial efficiency with resident choice through catalogs of pre-approved infill options—kitchen positions, room sequences, facade screens—selected in rapid workshops (Kendall & Teicher, 2000). Core housing strategies deliver a serviced nucleus, foundation, roof, and wet core, while enabling incremental expansion as needs and resources evolve.

Contemporary incremental housing approaches such as ELEMENTAL's "half-house" model, lean towards delegated power while demonstrate how progressive enlargement supports cultural practices and affordability (Aravena & Iacobelli, 2013). Empirical studies of open building and incremental housing projects demonstrate that this division significantly reduces post-occupancy conflict and informal modification (Kendall & Teicher, 2000). Habraken's Support–Infill theory operationalizes partnership through phased control: professionals design the shared structure, while users customize infill. This model operationalizes cultural identity within participatory design by separating permanent structural elements from adaptable infill components. This framework enables rapid construction while allowing residents to customize facades, thresholds, and interior partitions. Such flexibility ensures that cultural expression is preserved even under emergency timelines, where speed is paramount.

In emergency settings, this is particularly critical: instead of delivering rigid, closed units, architecture anticipates change and legitimizes resident agency within a predefined structural frame.

Courtyards, Thresholds, and Shared Space

Spatial configurations such as courtyards, clusters, and thresholds function as key social infrastructures that structure how communities live their they lives. Alexander et al. (1977) identify courtyards as spaces that support informal governance, shared activities, and collective maintenance. Courtyards act as social condensers, producing participation through everyday interactions by giving space for informal governance, cultural expression,Temporal adaptability.
Residents can make decisions about use, access, and boundaries through daily encounters and personalize edges with plants, textiles, seating, and shading devices.Creating a space that shifts functions throughout the day from play, cooking, gatherings, drying laundry requiring constant negotiation.

Rapoport (1969) highlights thresholds as culturally significant zones that mediate public and private realms and accommodate negotiation and adaptation. Thresholds such as entrances, verandas, iwans, stoops, semi-open rooms, are culturally charged micro-spaces that mediate between public and private realms.These thresholds trigger participation because residents have to negotate their bounderies and have a space for small scale personalisation and incremental change. finally these spaces create "soft edges" where neighbors greet, exchange goods, and supervise children

Shared infrastructure nodes such as communal water points or multi-functional community rooms further trigger participation through necessity-driven gathering. These spaces generate co-presence, trust, and collective decision-making without formal organization.

Together, these systems demonstrate that participation can be spatially produced. Architecture triggers agency not by prescribing behaviour but by creating environments where interaction, adaptation, and negotiation are unavoidable.

2.5. Summary of the Theoretical Framework

The theoretical framework developed in this chapter positions architecture as a catalyst for participation. Participation is understood as a spatially produced condition that emerges through adaptation, collective use, and negotiation over time. Architectural triggers—embedded within incremental housing, support–infill systems, shared spatial typologies, and communal hubs—enable participation even when formal processes are constrained.
Together, these elements form a coherent framework that allows post-disaster housing to balance speed and standardization with agency, cultural expression, and social resilience. This framework provides the conceptual basis for the analytical and design strategies applied in the subsequent chapters.

Architectural Trigger	Typology That Embeds It	How It Activates Participation	When It Operates	Operational Design Actions
Adaptability	Incremental Housing	Residents personalize layouts, reorganize rooms, and adjust spaces based on family structure & cultural routines	**Early occupancy → Post-occupancy**	- Provide flexible floor plans - Use non-loadbearing internal partitions - Allow multiple room sequences (privacy gradients)
Incompleteness	Incremental Housing / Core-and-Shell	Unfinished portions of the dwelling force resident intervention and foster ownership	**Handover → Early occupancy**	- Deliver serviced core only - Provide extension-ready structural bays - Leave "gaps" that residents must resolve
Layered Control	Support–infill (Open Building)	Separation of structure and infill allows residents to control internal space and facade expression	**Handover → Long-term**	- Fix structure, services, fire safety - Make layouts, facades, finishes resident-controlled - Use modular infill kits
Negotiable Boundaries	Threshold & Transitional Typologies	Thick edges (porches, iwans, verandas) become micro-zones for social interaction & negotiation	**Immediate occupancy → Ongoing**	- Provide deep thresholds - Layer public–semi-public–private - Design edges that can be enclosed or opened by residents
Shared Space	Courtyard & Cluster Typologies	Shared courts produce co-presence, informal governance, collective maintenance	**Immediate occupancy → Ongoing**	- Orient units around a shared court - Keep courts small (4–8 households) - Provide shaded, usable edges
Co-presence / Necessity-driven Gathering	Communal Hubs & Service Nodes	Social support, exchange, and decision-making emerge around shared programs	**Immediate occupancy → Ongoing**	- Integrate multi-purpose community rooms - Provide shared kitchens, laundry, WASH points - Embed plinth-level public programs
Temporal Openness	Incremental + Support–infill + Courtyard Systems	Architecture allows growth, change, and reconfiguration across months/years	**All phases (pre → post)**	- Design for staged upgrades - Use modular structural grids - Provide patterns for safe incremental extensions
Collective Management	Cluster + Courtyard + Communal Hub	Residents negotiate use, rules, boundaries, collective improvements	**Post-occupancy**	- Provide communal storage, seating, planting - Integrate low-risk DIY zones - Design edges for shared responsibility
Distributed Agency	All typologies working together	Residents participate at different moments depending on trigger and spatial affordance	**Across all phases**	- Avoid "totalizing" design - Defer decisions strategically - Embed room for change in all scales (unit, block, plinth)

3 Reconstructing Homs without Participation

Top down renewal in Homs before and during the conflict exposed how efficiency driven, image led planning can erase cultural anchors, harden social divisions, and provoke collective resistance when participatory mechanisms are absent or purely symbolic. Two emblematic episodes—Homs Dream and Boulevard al Nasr—show how context less visions, imposed on a historically sensitive urban fabric, produced what Lefebvre terms "abstract space": standardized environments detached from lived experience, with inhabitants denied the right to modify and appropriate their city over time (Lefebvre, 1996). Read through the lenses of cultural determinants of dwelling (Rapoport, 1969; Oliver, 2006) and Support–Infill partitioning (Habraken, 1972; Kendall & Teicher, 2000), these projects illustrate the costs of excluding residents from decisions that encode identity, thresholds, courts, façades, and future extensions—and of failing to institutionalize equity and grievance (Barakat, 2003; Davis, 2010; Davidson et al., 2007).

1. Homs Dream

Announced in 2007 as a city wide modernization policy with a 20 hectare city centre regeneration at its core, Homs Dream promised a Dubai style future: high rise towers, widened boulevards, branded retail, and foreign capital (e.g., Qatari Diar)—superimposed over Homs's modest, low rise historic centre with its souk, courtyards, and black stone vernacular (Black & Sonbli, 2021). Presented as inclusive modernization, the scheme was widely read locally as profit oriented and socially exclusive, with expropriation instruments and the mid 2000s "Towers Law" having already raised land prices and mistrust (Black & Sonbli, 2021; Barakat, 2003). From a cultural infrastructure perspective, Homs Dream misrecognized the center as a neutral site for image repair rather than a repository of deep structures, privacy gradients, gendered circulation, ritual hosting, that dwell in thresholds, adjacency rules, and courtyard life (Rapoport, 1969; Oliver, 2006). Absent bounded, traceable co decisions on these carriers, households anticipated spatial alienation and forced remodeling after delivery (Davidson et al., 2007). In Arnstein's terms, participation remained at best tokenism (inform/consult), never rising to partnership where residents influence outcomes (Arnstein, 1969; IAP2).

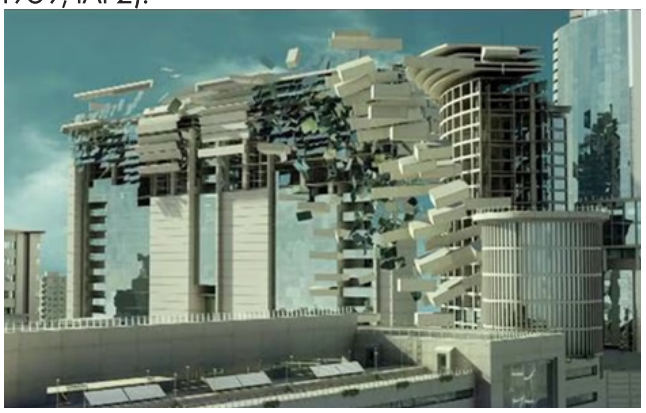


Figure 4 Images from the Homs Dream project

Technically, the project collapsed support (structure, fire, utilities) and infill (partitions, thresholds, façades) into a single centralized decision pipe, foregoing open building benefits that permit rapid supports with resident selected infill kits (Habraken, 1972; Kendall & Teicher, 2000). A mass customization approach—limited catalogues of compatible partition and screen options—could have reconciled speed with agency (Sanders & Stappers, 2008; Luck, 2018). Its absence meant residents could not see where their choices lived in the scheme, intensifying opposition (Black & Sonbli, 2021).

2. Boulevard al Nasr (Victory Boulevard)

The Boulevard al Nasr redevelopment became another focal point for anti-displacement protest and allegations of opaque decision making, crystallizing a local discourse of "urban design as a weapon". The elements of demolition, boulevardisation, and tower clusters are interpreted as instruments of demographic and class re-engineering rather than public good (as documented for analogous Syrian cases; Black & Sonbli, 2021; Clerc, 2014). In the wider national context, selective enforcement (e.g., demolition under Law 66 in Damascus during acute housing shortages) amplified residents' sense that legal–technical rationales mask collective punishment and elite capture (France24, 2012; Clerc, 2014). While the geographies differ, these narratives traveled and colored Homsi readings of boulevard led schemes: clearance and

enclosure masquerading as modernization (Black & Sonbli, 2021).

Figure 5 Homs, Al Nasr Boulevard bilboard from ALOMRAN

Viewed through pattern language, a boulevard that cuts through nested courts and souk logics disrupts the social armature—semi private edges, shaded galleries, slow lanes for children and elders—on which everyday co use and surveillance depend (Alexander et al., 1977; Sanoff, 2000). In the absence of early, collective choices about block logic and court hierarchy, and without tenure clarity or grievance channels that legitimate allocation, a linear megaproject reads as non-negotiable imposition (Davidson et al., 2007; Barakat, 2003; Davis, 2010). The boulevard's promise of speed and image thus converts, in Lefebvre's terms, into abstract space—a commodified landscape where inhabitants cannot appropriate or transform (Lefebvre, 1996).
Technically, a boulevard intervention in a post conflict context requires Support–Infill discipline: professionals secure life safety geometry (egress widths, turning radius, ect...), while residents co determine court edges, thresholds, and façade screens via bounded choice catalogues and mock ups (Habraken, 1972; Kendall & Teicher, 2000; Sanders & Stappers, 2008). In Homs, that partitioning of control was absent, leaving all decisions centralized and rendering the project a lightning rod for contestation (Black & Sonbli, 2021).

3. Structural lessons for post conflict reconstruction

Lesson 1: Context should be read discursively, not just physically.

The discourse over urban renewal in Homs is anchored in historical grievances and regulatory memory and therefore filters itself into two main topics: modernization vs design as weapon (Black & Sonbli, 2021). Cultural codes are hidden behind the physical analyses of the city and participatory tooling must elicit them early through privacy gradient boards, adjacency maps, scenario games (Sanoff, 2000; Sanders & Stappers, 2008; Luck, 2018).

Lesson 2: Site choice and timing carry symbolic weight.

Transforming the historic core under market liberalization pretenses and ambiguous tenure signals a subliminal eviction. Design commitments must be last on the list after having clarified allocation, clarity, tenure security, and grievance mechanisms (Barakat, 2003; Davis, 2010). This ensures that during the elaboration of the design residents are involved at Involve/Collaborate levels rather than token Inform/Consult (Arnstein, 1969; IAP2).

Figure 6 Maps of Homs collectively drawn by Syrian refugees, starting from the clock tower, 2017. [Ayham Dalal]

Lesson 3: Infill (identity) and support (life safety) should be separated

In order to preserve performance while restoring agency a Support–Infill strategy must be adopted. This enables professionals to control structure, fire, utilities

while residents choose partitions, thresholds, façade screens within pre approved catalogs. (Habraken, 1972; Kendall & Teicher, 2000).

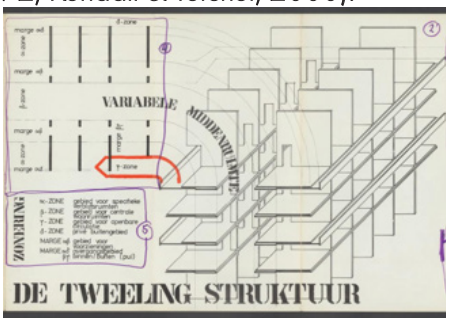


Figure 7 Details from "The Twin Structure," fold-out poster produced by the SAR to explain the methodology of support and infill (inbouwpakket means "infill"), 1967.

Lesson 4: Reconstruction efforts should incorporate phased participation and bound choices.

Agency must be distributed over a phased timeline (Turner, 1976; Brand, 1994; Aravena & Iacobelli, 2013; Sanoff, 2000):
0–3 months is reserved to co select unit variants with privacy gradients, typology and block/court hierarchy;
3–12 months enables residents to choose infill/ façade kits during handover;
12+ months gives chance for incremental extensions with permit lite approvals and feedback loops

Lesson 5 — Architectural carriers should be use to encode culture.

Focusing on architectural carriers with high cultural yield during participatory processes such as thresholds and privacy devices, nested courts and edges, façade screens and infill modules, and extension ready zones, translate vernacular norms and rituals into buildable specifications (Rapoport, 1969; Oliver, 2006; Alexander et al., 1977).

Lesson 6 —Transparency and design should be used as a control mechanism.

Where expropriation and uneven enforcement are in memory, generic skyline promises are distrusted. Embed community allocation committees, lotteries with audit trails, and formal appeals from day one to prevent elite capture and legitimize engagement (Barakat, 2003; Davidson et al., 2007; Davis, 2010).

Lesson 7 — Skyline should not be used as the base of recovery.

High rise branding without cultural fit produces alienation and remodeling. Recovery in Homs means encoding identity in thresholds, courts, infill, and extensions, not merely delivering square metres (Lefebvre, 1996; Rapoport, 1969; Oliver, 2006).

4. A Phased Participatory Framework for Homs

This section consolidates the literature in order to implementable a framework for post-conflict Homs. The framework sequences decision-making over time, aligns who decides what with the Support–Infill split (long-life/life-safety vs short-life/culturally determinant elements), and embeds procedural safeguards to maintain speed without sacrificing cultural identity, inclusivity, or agency (Habraken, 1972; Kendall & Teicher, 2000; Rapoport, 1969; Oliver, 2006; Lefebvre, 1996; Davidson et al., 2007; Barakat, 2003).

4.1. What can participatory design bring to Homs?

Participatory design, adapted to emergency timelines, can operationalize cultural identity and agency without sacrificing delivery speed. In Homs, where top-down redevelopment triggered resistance (e.g., the Al-Nasr Boulevard protests), participation repositions inhabitants as co-authors of space—transforming housing from a fixed commodity into a living framework (Lefebvre, 1996). Literature consistently shows that culturally misaligned housing leads to abandonment or costly remodeling, while bounded, inclusive decision-making improves acceptance and reduces alienation (Rapoport, 1969; Davidson et al., 2007). Rather than asking residents to design everything, successful approaches concentrate choice within specific architectural carriers that hold cultural significance:

- Thresholds and privacy gradients
- Shared courts and semi-public spaces
- Façade and infill palettes

- Extension-ready zones

By embedding participation within these architectural carriers, cultural identity becomes encoded in form rather than postponed or excluded. Importantly, bounded choice also aligns with industrialised construction and logistics, allowing resident decisions to translate directly into procurement and fabrication flows. However rather than making all decisions beforehand, going for a phased participation approach that distributes engagement across the reconstruction timeline so agency is realistic under time pressure. At unit scale, co-selected privacy gradients and thresholds embed deep cultural cues such as modesty, hospitality and gendered based topics before the structure is fixed (Rapoport, 1969; Oliver, 2006). At block scale, co-defined shared courts and access create a social armature for rituals and everyday co-use (Alexander et al., 1977; Sanoff, 2000). At handover, infill and façade kits enable visible identity and ownership while maintaining performance (Habraken, 1972; Kendall & Teicher, 2000). Post-occupancy, extensions support livelihoods and multi-generational norms within safe structural limits (Turner, 1976; Brand, 1994). Institutionally, transparent allocation and grievance systems reduce conflict and legitimize engagement (Barakat, 2003; Davis, 2010).

4.2. Tools to use and when

Many different tools are used at different points of the reconstruction of a neighborhood. Whitin these different tools the importance lies in inclusivity, low literacy, and feasibility.
In the first 3 months, Block logic, access and court hierarchy, and unit layout variants with privacy gradients is determined using Icon based adjacency maps & privacy gradient boards. Surface routines, norms with low literacy burden and selection among 3–5 pre approved unit variants aligned to structural grids alleviate the complexity of the initial task (Sanoff, 2000; Kendall & Teicher, 2000). Co deciding nested court hierarchy, shaded edges, slow street access using pattern language methods through pattern cards and block charettes incorporates residents in a fast pace way (Alexander et al., 1977; Sanoff, 2000). Publicly posted criteria, committee roles, and appeal routes; WhatsApp/phone hotline for accessible recourse eases allocation protocols & grievance flowcharts (Barakat, 2003; Davis, 2010).
The following 3 to 6 months focus mainly on deciding on the infill and materialization from Infill/ façade catalogs + 1:1 mock ups or VR (Kendall & Teicher, 2000) and drafting the Rules of use charters for courts to stabilize shared space practices (Sanoff, 2000).
A year after the reconstruction efforts, extension pattern books and regular post occupancy review days are conducted in order to regulate safe spans, exits, party wall rules; micro grants/loans; permit lite approvals with on site advisors and incorporate observed use and feedback (Crowther, 1999; Sanoff, 2000; Davidson et al., 2007; Kendall & Teicher, 2000).

4.3. Degrees of participation and duration

Participation is sequenced to the Involve/Collaborate bands where meaningful influence is feasible under time pressure (Arnstein, 1969; IAP2 Spectrum).
While a more collaborative approach concentrated in 1–3 day sprints is strived for in order to no only involve the residents for decisions concerning unit layouts & thresholds or at least able to choose among bounded variants where professionals fix supports (Rapoport, 1969; Habraken, 1972). A definitive collaborative approach should be taken in deciding on on the block fabric & courts and infill & materialization through charrettes, site walk-throughs, catalog sessions near handover; and batch sign-offs in order to come to a consensus on court hierarchy and access. Meanwhile the life-safety/infrastructure geometries remain fixed by professionals (Alexander et al., 1977; Sanoff, 2000).
Post occupancy, extensions are delegated to the resident under technical control which results in ongoing post-occupancy; resident-led growth within codified limits; professional approval for structural changes (Turner, 1976; Brand, 1994).

5.Conclusion

Due to poor planning, weak coordination and missed opportunities for resilience, assessments rarely encapsulate the cultural priorities of post disaster settings. This results in housing that is misaligned with needs and aspirations.

Exclusionary processes deepen vulnerability, as decisions made without community input fail to reflect local norms, leading to resistance, abandonment, and even protest. Recovery unfolds within two distinct cultural contexts: the enduring culture of victims and the procedural culture of relief agencies. These groups are thrust together under exceptional circumstances, yet their values diverge sharply. Most victims are poor; most planners belong to privileged classes. This asymmetry creates a "double trauma": first from the disaster, then from disempowerment when external bodies assume total control.

Ensuring fair resource distribution and reducing systemic disparities, Including marginalized voices such as widowed women, the elderly, the disabled, and the poor and Identifying legitimate local authorities such as elders, religious leaders, councils, or community-based organizations are crucial steps in effectively tailoring and legitimatizing equitable and inclusive participatory strategies. Equitable reconstruction is critical in sustainable community building therefore risks must be reduces Programs prioritizing elite interests undermine cohesion; equitable approaches allocate housing based on need. Standardized "one-size-fits-all" models exacerbate vulnerability, especially where extended families are the norm. When local lifestyles and gendered norms are disregarded, the dwellings that are delivered usually fail due to the lack of cultural sensitivity (Davidson et al.,2007). Inclusivity is not only representation but is mainly about creating agency by fostering ownership and strengthening social cohesion, particularly in post-conflict settings where trust is fragile. In a world were physical rebuilding is prioritized, community-driven reconstruction puts social capital, mutual trust, shared values, and collective capacity first. By fostering ownership through approaches such as workshops, co-design sessions, and visual mapping transforms recovery from dependency into empowerment, enabling dialogue and embedding cultural priorities (Sanoff, 2000; Luck, 2018).

Inclusivity, equity, and social cohesion are not outliers but foundational and therefore in order to design spaces that promote psychological well-being, strengthens networks, and enhances resilience, the design along with the process must reflect cultural norms and must be distributed fairly. Ignoring these dimensions turns reconstruction from renewal into division.

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