

comú(r)

Barcelona - La Verneda (ES)

1. Context and Urban Analysis

La Verneda, situated in the Nou Barris district of Barcelona, is a vibrant urban area marked by a rich social fabric and a mix of residential buildings alongside key community facilities. The project site is defined by a unique triangular plot shape that poses spatial constraints but also offers opportunities for innovative urban design.

The neighborhood demonstrates a high degree of social diversity, with residents spanning multiple age groups and cultural backgrounds. Existing community facilities, notably the Casa del Barrio, serve as important social anchors but require expansion to meet increasing demands and evolving social needs.

The Mediterranean climate governs the environmental conditions, characterized by abundant sunshine, hot dry summers, and intermittent heavy rainfall events. These climatic challenges necessitate design solutions that effectively manage water runoff, mitigate urban heat, and promote resilience.

Comprehensive urban analysis has focused on:

- **Socio-demographic dynamics:** Understanding population structure, vulnerable groups (children, elderly), and community needs.
- **Environmental context:** Solar paths, prevailing winds, rainfall patterns, and microclimatic conditions.
- **Built environment and heritage:** The influence of existing community facilities like Casa del Barrio and their role in neighborhood identity.
- **Connectivity and accessibility:** Evaluating pedestrian flows, vehicular access, and integration with adjacent urban fabric.

This analysis informs a project that balances respecting existing context while introducing new spatial and functional qualities.



2. Programmatic Framework and Design Objectives

The project *comú(r)* responds directly to identified community needs by proposing an expansion of the current social infrastructure, incorporating diverse uses and fostering inclusivity.

Key programmatic elements include:

- **Dedicated spaces for different age groups:** Interactive, safe zones for children; dynamic spaces for youth engagement; and comfortable, accessible areas for seniors.
- **Flexible multipurpose rooms:** Designed for cultural events, workshops, meetings, and communal activities, with a seamless connection to outdoor spaces.
- **Community garden:** An urban green space promoting sustainable agriculture, environmental awareness, and intergenerational exchange.
- **Integrated water management system:** Harnessing greywater and rainwater through a natural phytodepuration process, contributing to sustainability and reducing strain on municipal water resources.

The overarching objectives:

- **Enhance social cohesion:** By creating spaces that encourage interaction and foster a sense of belonging.
- **Advance environmental sustainability:** Through passive design strategies,

resource efficiency, and innovative water management.

- **Facilitate spatial adaptability:** Ensuring long-term relevance by allowing spaces to evolve according to future community needs.
- **Promote construction innovation:** Using durable, environmentally responsible materials and methods.

3. Architectural Concept and Spatial Organization

3.1 Massing and Site Integration

The architectural volume is conceived as a permeable form that embraces the triangular site's geometry. It adheres closely to the parcel edges, maximizing usable area while preserving crucial pedestrian passage adjacent to the Casa del Barrio. This passage maintains physical and visual continuity between the new development and the existing urban fabric, reinforcing community ties.

The massing gently steps down towards the southern boundary, a strategy that softens the building's presence, enhances solar access to shaded zones, and creates varied spatial experiences with microclimatic benefits. This design ensures the built form complements, rather than dominates, its context.

3.2 Ground Floor Program

The ground floor acts as a vibrant extension of the Casa del Barrio, offering:



comú(r)

- **Tailored zones for children, youth, and elderly populations:** Equipped with adaptable furniture and infrastructure to support diverse activities.
- **An open multipurpose hall:** With large sliding glazing elements that blur the boundary between interior and exterior, fostering interaction with the community garden and a floodable garden space designed to manage stormwater naturally.
- **Communal gathering spaces:** Inviting users to rest, meet, and engage in spontaneous social exchange.

3.3 Housing Typology

The residential component revolves around three robust wooden-equipped structural walls serving as the main cores. These cores integrate mechanical, electrical, and plumbing systems within their thickness, optimizing space efficiency.

Supporting these cores is a reinforced concrete frame providing structural stability and longevity. The design prioritizes clear zoning to delineate private living spaces from flexible common areas, encouraging both privacy and social connection.

Externally, a wooden scaffold-like framework encloses the building, housing adaptable communal spaces. These spaces are designed to be multifunctional — workshops, recreational zones, or meeting areas — and easily reconfigurable to respond to changing community demands.

3.4 Roof and Outdoor Spaces

The roof is transformed into a communal terrace featuring a stepped design that creates multiple outdoor rooms with different levels of privacy and exposure. Equipped with retractable awnings, the terrace accommodates various weather conditions, promoting year-round usability.

This rooftop area becomes a vital social node where residents can gather for collective activities, leisure, or simply enjoy views over the neighborhood, strengthening the sense of community.

4. Technical Solutions and Sustainability Strategies

4.1 Water Cycle Management

Recognizing the importance of sustainable water use in a Mediterranean context, the project integrates a comprehensive water management system:

- **Collection of greywater and rainwater** via dedicated conduits.
- **Phytodepuration system:** A four-stage natural treatment process using specific aquatic and semi-aquatic plants adapted to the local climate. This system filters and cleans water before reuse.
- **Reuse applications:** Treated water irrigates the community garden and floodable garden, promoting circular water use and reducing potable water consumption.



This approach not only mitigates flood risks during heavy rains but also supports biodiversity and environmental education.

4.2 Passive Environmental Controls

- **Solar orientation:** Building form and window placement maximize passive solar heating during winter while limiting overheating in summer.
- **Shading devices:** Overhangs, pergolas, and awnings are strategically located to control solar gain and glare.
- **Natural ventilation:** Cross ventilation is facilitated through operable windows and permeable façades, reducing reliance on mechanical cooling.
- **Thermal insulation:** High-performance insulation in walls and roofs ensures energy efficiency

4.3 Material Selection and Construction Methodology

- **Prefabricated wooden wall panels:** Offer excellent thermal performance and reduce construction waste.
- **Concrete core structure:** Provides long-term durability and seismic resistance.
- **Wooden scaffold-like exterior framework:** Supports communal spaces and enhances façade expressiveness while enabling flexibility.
- **Locally sourced and low-impact materials:** Minimize environmental footprint and support the regional economy.

5. Social Impact and Community Benefits

The project goes beyond mere architecture; it fosters social interaction, inclusivity, and resilience by:

- Encouraging **intergenerational exchange** through diverse programming and shared spaces.
- Promoting **active citizenship** via participatory garden activities and communal events.

- Enhancing **accessibility** to ensure all community members, including those with mobility challenges, can comfortably use the facilities.
- Reinforcing **identity and pride** in La Verneda by revitalizing the Casa del Barrio as a social anchor.

6. Conclusions

comú(r) represents a holistic intervention that responds to La Verneda's social, environmental, and spatial challenges. It merges architectural innovation with sustainability and community empowerment.

The project's volumetric approach, combined with technical and ecological strategies, results in a resilient, adaptable, and inclusive urban environment. By integrating housing, community facilities, and green infrastructure, it contributes to improving quality of life and fostering long-lasting social ties.

This proposal aspires to be a model for participatory, sustainable urban regeneration in similar neighborhoods facing the complex demands of contemporary city living.

