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Regenerate collective spaces in social housing: a case study in Metropolitan Area of Naples. First research's results

Rigenerare gli spazi collettivi nell'edilizia sociale: un caso di studio nell'Area Metropolitana di Napoli. Primi risultati di ricerca

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ABSTRACT AND KEYWORDS

Regenerate collective spaces in social housing

The article presents the first results of the PRIN research 'Places of Proximity. A methodology for the regeneration of collective spaces in modern neighbourhoods'. The paper investigates the concept of 'proximity spaces' in modern neighbourhoods, understood as inhabitable places outside housing, and focuses on their regeneration. The contribution delves into the methodology used by the three research units: morphological analyses and surveys of the three ERP seasons allowed the categorisation of case studies of some problematic neighbourhoods in Rome, Naples and Turin. The article continues with an investigation of two cases: a Parisian eco-neighbourhood and the case study of the Neapolitan research unit, the Parco Verde district of Caivano, chosen for socio-economic similarities and for differences in morphology and regeneration policies. Finally, the article illustrates the co-design process of the 'Urban Living Labs' in Parco Verde, which takes on an innovative character in the dimension of analytical and design sharing, and also in the ability to guarantee a connection between the design phase and the implementation-management phase.

Keywords: social housing, urban regeneration, proximity spaces, living lab, experimentation

Rigenerare gli spazi collettivi nell'edilizia sociale

L'articolo illustra i primi risultati della ricerca PRIN "Luoghi di prossimità. Una metodologia per la rigenerazione degli spazi collettivi nei quartieri moderni" che approfondisce il concetto di "spazi di prossimità" nei quartieri moderni, intesi quali luoghi abitabili al di fuori dell'alloggio, e pone particolare attenzione alla loro rigenerazione. Il contributo approfondisce la metodologia utilizzata dalle tre unità di ricerca: analisi morfologiche e indagini relative alle tre stagioni ERP hanno permesso la categorizzazione dei casi studio di alcuni quartieri problematici di Roma, Napoli e Torino. L'articolo prosegue con un'indagine di due casi: un ecoquartiere parigino e il caso studio dell'unità di ricerca napoletana, il rione Parco Verde di Caivano, scelti per le analogie socioeconomiche e perché utili a costruire un confronto tra differenti morfologie e diverse politiche di rigenerazione. L'articolo illustra, infine, il processo di co-progettazione degli "Urban Living Labs" a Parco Verde che assume un carattere innovativo nella dimensione di condivisione analitica e progettuale, e anche nella capacità di garantire una connessione tra la fase di progettazione e quella di implementazione-gestione.

Parole chiave: edilizia residenziale pubblica, rigenerazione urbana, spazi di prossimità, living lab, sperimentazione

1. Introduction

Places characterized by conditions of decay are the result of multiple interacting factors, including social, economic, urban, and cultural issues. These elements have contributed to the creation of environments that are difficult to live in, marked by decay, negative hybridizations of social phenomena, functions and legacies of the past that are complex to change. Social and public housing neighbourhoods, commonly associated with the territorial dimension of the 'periphery,' are no longer just marginal areas today, but rather historicized fragments within the urban fabric-examples of authoritative plans and projects that nevertheless require regeneration interventions in line with renewed contemporary conditions.

Building on this context, the paper will present the first results of the 2022 PRIN project "Places and Stories of Proximity. A methodology for the regeneration of collective spaces in modern neighbourhoods" [1]. The research focus lies in the study of 'proximity spaces', which are defined as habitable places outside housing and thus constitute places of sharing within neighbourhoods. The research is carried on by three research groups from three different cities (and universities), Roma, Napoli and Torino (see note 1 for more details). Each unit will focus on five neighbourhood case studies (except for Torino unit which study four case studies) distinguished in morphological categories and seasons, following the methodology outlined in the next section (2. Methodology). Starting from a new perspective on proximity spaces and services around which many neighbourhoods of the 'public city' were born (14 case studies), the research aims to rethink three of these neighbourhoods by seeking replicable solutions, starting from some paradigmatic case studies emerged during the literature review (De Biase et al., 2024). The scope is to configure strategies for the regeneration of collective spaces in modern neighbourhoods, promoting a concept of the "city of proximity" that responds to the new demand for neighbourhood spaces and services—easily accessible, implementable, and usable.

The paper illustrates a best practice example of urban regeneration project in the city of Paris, the Saint Vincent de Paul eco-quartier. The project was chosen for its innovative way of renovating a neighbourhood starting from collective spaces. The examples shown in SVdP renovation project offer relevant food for thought about typologies of intervention and social practices that could be replicated one day in the renovation of public spaces of modern districts in Italy. The main case study of Neapolitan unit (chosen among the five case studies overall) is then deepened: the Parco Verde neighbourhood in Caivano. Here the research unit, after the urban and morphological analysis of the district, will develop Urban Living Lab, a participatory device extremely useful for the involvement of the population in the discussion with stakeholders and representatives, in order to design conscious strategies with a bottom-up matrix and not the opposite. The workshop process and the future developments of the research project are better explained in the section 7 (Living Lab and future developments).

2. Methodology

The research project adopts a multidisciplinary and participatory method, involving architects (Roma unit), urban planners (Napoli unit), and architectural and urban historians (Torino unit). The results will be open and open-source, contributing to the development of a decision-support system for local authorities, residents (tenants or owners), citizen associations, and private entities interested in the regeneration of collective spaces in modern neighbourhoods. Each research unit chose five case studies (except for Turin) and, among these, will deepen more specifically one of

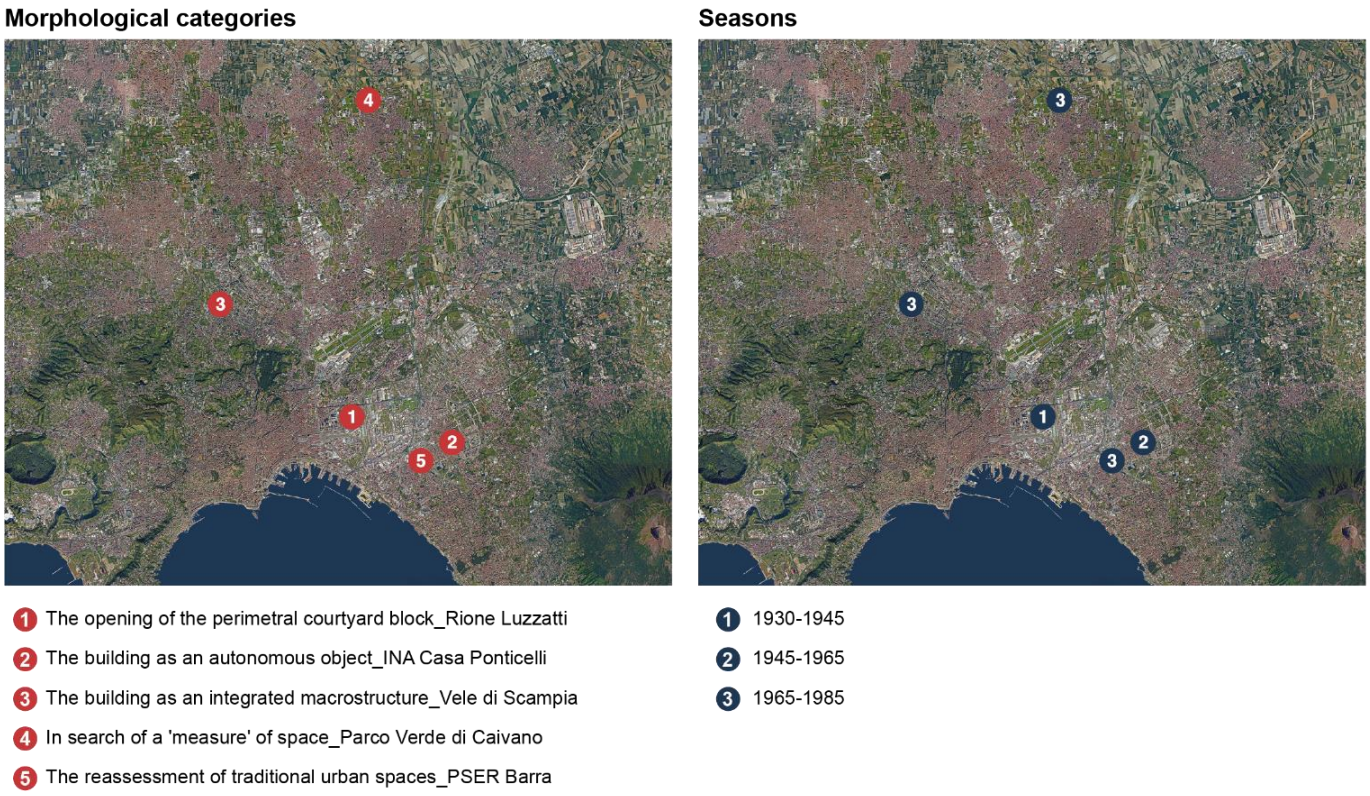
them: Torrevecchia neighbourhood (Roma), Parco Verde in Caivano (Napoli) and Santa Caterina neighbourhood (Torino).

The proposed methodology, in particular, uses the Living Lab tool, implemented in relation to urban transformation processes, to ensure that design solutions, tailored to the specific needs of communities, are tested in real contexts (Steen & van Bueren, 2017). All stakeholders are actively involved in the various phases of identifying issues and subsequent co-design phases, becoming key players in the regeneration strategies. Their contributions will range from defining new “proximity fields”, conceived as liveable external spaces to residences, to identifying the challenges and potentials of collective spaces, and finally to formulating concrete intervention proposals for their regeneration. This participatory approach will ensure that the proposed solutions effectively address the needs and aspirations of local communities. Furthermore, the project aims to create narratives about places that enhance the memories and imagery associated with neighbourhoods, considering them part of a collective heritage. Emphasizing these cultural and historical aspects will be crucial for strengthening the identity of places and the sense of belonging of residents. To support this activity, all collected data will be shared through the WebGIS platform "Places and Proximities Stories," which will serve as a digital archive and open-access consultation tool.

A preliminary part of the research project carried out an analysis with a dual nature: one temporal and one morphological. Below, theoretical and practical framework employed is explained. The research units have identified three "seasons" of public residential construction, corresponding to the periods 1930-45, 1945-65, and 1965-1985, following the chronological succession of laws and the rules that have characterized them (Stenti, 2023). Each season includes some of the chosen 14 case studies: each of them represents a significant example of the various evolutionary phases of public residential construction in Italy. At the same time, the 14 neighbourhoods have been analysed according to a classification scheme of five morphological categories, each representing a different type of architectural experimentation carried out during the various periods of 20th-century Italian housing. The selected neighbourhoods in Turin are as follows: 16th IACP Vittorio Veneto, 30th IACP Lucento, neighbourhood E6 of the Piano di Zona 167 and the residential complex Tetti Blu. Neighbourhoods in Rome are: Testaccio, INA Casa Ponte Mammolo, Laurentino, Torrevecchia and Quartaccio. Lastly, those in Naples are: Luzzatti, INA Casa Ponticelli, Vele di Scampia complex and the Parco Verde in Caivano. Regarding the neighbourhoods analysed in Naples, each one falls into one of the five identified morphological categories. From a chronological perspective, two of the five neighbourhoods belong to different periods: one to the period from 1930 to 1945, and the other to the period from 1945 to 1965. The remaining three neighbourhoods all belong to the third period, that is, the one following 1965 (Figure 1).

The co-design process through the Living Labs, specifically redefined as "Urban Living Labs" in this case, appears innovative not only in analytical and design sharing but also in its ability to ensure a direct and continuous link between the phases of design, implementation, and management. This integrated approach will allow for constant monitoring and evaluation of the effectiveness of the proposed solutions, fostering dynamic adaptation and sustainable management of urban transformations. The synergy between theory, practice, and knowledge of contexts through narratives, needs, and visions of place actors can, in this sense, offer tangible and lasting results for the regeneration of modern neighbourhoods.

Figure 1. Localisation of Neapolitan case studies according the morphological and chronological analysis



Source: Author's elaboration

3. The "Seasons" of the Public City

As previously stated, one of the criteria adopted by the research to discretize the phenomenon of public housing in Italy is to establish a temporal segmentation of public and social housing production in Italy. To construct the narratives of these places, highlighting their memories and associated imagery, three 'eras' of public housing were identified, corresponding to the periods 1930-45, 1945-65, and 1965-1985 (Figure 1). Within these eras, several paradigmatic cases have been placed, representing significant examples of different evolutionary phases (Carughi, 2006).
The first period is when the construction and management of public housing were entrusted to the IACP (Autonomous Institute for Public Housing), an entity established by Luigi Luzzatti with the Law of May 31, 1903, no. 254, which provided for the possibility of establishing bodies responsible for promoting, constructing, and managing public housing for the allocation of homes to the less affluent, divided into various categories of beneficiaries (the disabled, small entrepreneurs, war invalids, and state employees). The goal was to create neighbourhoods with housing suited to income levels, to combat local speculation.
The second period covers the post-war years, characterized by reconstruction and economic recovery. In this context, public housing became a crucial tool to address the housing emergency caused by the war. With Legislative Decree 154/1945, post-war reconstruction plans were introduced, allowing those who had lost their homes to rebuild them. Later, with the Fanfani Law of 1949 (Law of February 28, 1949, no. 43), also known as the INA-Casa Plan, a full economic and social housing plan was developed, marking a turning point with the introduction of a seven-year plan for the

construction of homes for workers, later extended for another seven years until 1955. This plan not only provided housing but also promoted the creation of neighbourhoods complete with infrastructure and services. Subsequently, the 1962 Law 167 further incentivized the construction of public housing by introducing the PEEP, a public initiative plan that defined specific zones for interventions, almost always in peripheral areas.

The third period saw further expansion of public housing, but also the emergence of issues related to management and housing quality. In the 1960s and 1970s, the economic boom led to rapid urbanization and a sharp increase in housing demand. The Ten-Year Residential Construction Plan of 1978 (Law no. 457) and the Extraordinary Program of 1981 (PSER, Law no. 219), measures introduced to address the housing problems of the time, were fundamental to urban expansion.

4. Morphology

At the same time, the neighbourhoods under examination were divided into five morphological categories. For each research unit, a significant case study was chosen for each of the listed morphological categories. This approach allows for a detailed and comparative analysis of the different architectural experiences within the examined cities. Through a critical and systematic selection, it is possible to accurately trace the evolution of housing solutions over time and fully understand the impact these solutions have had on the urban and social fabric. The focus on typological diversification and the integration of collective services and green spaces reflects the transformative dynamics of public residential neighbourhoods, thus offering a comprehensive and detailed picture of the urban and architectural transformations in the context of modernity.

Parco Verde neighbourhood in Caivano, the main case of the Neapolitan research unit, falls within the third identified season (1965-1985) and is part of the fourth morphological type ('In search of a “measure” of space') (Figure 1).

To explain the logic behind the methodology we can affirm that:

- In the first period, public housing was characterized by a functionalist and ideological approach, with the design of practical and efficient homes that embodied certain political and social values (Stenti, 2023). As a result, the neighbourhoods exhibited an architectural language strongly influenced by European rationalism, characterized by clean lines and essential geometric forms, with a strong emphasis on simplicity of structures, spatial efficiency, and the promotion of optimal hygienic conditions.
- The second phase examined is distinguished by post-war reconstruction and rapid urban expansion, with neighbourhoods featuring a more marked typological diversification and an increasing focus on improving the living conditions of residents. The residential solutions included block buildings, vertical villages, and complexes with a strong component of integrated collective services (Petrella, 1989).
- In the third and final period, public housing projects saw a significant increase in scale and complexity, aiming to integrate housing, services, and green spaces into a single organic entity (Dell’Acqua & Sansò, 2022).

The identified morphological categories, reflecting this evolution, encompass various architectural experiences that have had varying degrees of impact on the cities studied. These are:

- The opening of the perimetral courtyard block: the courtyard block is divided into several volumes, some of which are set back from the street boundary, while

others occupy the centre of the lot (Visconti & Capozzi, 2014). A first attempt to separate the building from the street and divide it into autonomous volumes can be observed, while still striving to maintain the unity, even visual, of the block. As for open spaces, the main one is the courtyard, which is partially visible from the street. Additionally, there are some spaces that act as a buffer between the street and the front of the block, corresponding to the set-back volumes. Finally, in some cases, the residential complex is enhanced by small service buildings positioned in the courtyard or by spaces integrated directly into the main volumes.

- The building as an autonomous object: the buildings are conceived as distinct entities, separated by roads that primarily serve as infrastructure for traffic. In this context, the reciprocal connection between the shape of the buildings and the urban morphology is lost, as is the relationship between the streets and the lower levels where the entrances to the residences are located. The buildings are distributed within a continuous space according to various compositional criteria, often with contrasts between horizontal and vertical volumes. They specialize in different architectural types, such as tower or linear buildings, which are easily recognizable. Some projects attempt to volumetrically deform and articulate the buildings to create spaces that are both intimate and dynamic, in line with the directives of the Ina Casa files of 1949 and similar design initiatives. This approach aims to provide variety and, in some cases, a sense of partial enclosure, delineating distinct areas within a balanced relationship between open and defined spaces. The spaces are generally open and connected to each other, with occasional attempts to suggest enclosure, though it is never complete. Despite significant variations in building height and distance in different contexts, the scale of the spaces remains compact. Furthermore, the idea of integrating services into the building volume is lost, as the buildings become specialized in the residential function. The ground floor tends to be vacated with the widespread use of the *pilotis* solution, and its function is limited to providing access to the residences, marked by the isolated presence of entrance halls and stairwells. Collective services tend to coalesce into clusters composed of buildings specialized by function, or, according to a more traditional solution, through the concentration of residential buildings with ground floors designated for special functions.
- The building as an integrated macrostructure: the buildings are characterized by a significant increase in scale and are conceived as complex units. These are integrated with advanced services and an articulated distribution system that takes on the typical features of urban spaces (Ricci, 2003). The growing complexity of the buildings translates not only into functional integration but also into typological integration, combining and hybridizing different types of housing with various distribution methods. The road becomes completely detached from the buildings and transforms into an infrastructure almost exclusively dedicated to vehicular traffic. Pedestrian paths within the residences develop along specific structures that, starting from the urban level, transform into systems of ramps, elevated walkways, bridges, and galleries, occasionally intersecting with facilities and services integrated into the building. This radical innovation helps shape a residential landscape that is distinctly different from traditional urban spaces. As for open spaces, they are large and continuous, not 'contained' and defined by widely spaced large buildings. This extension, proportional to the increase in building size, results in a generalized loss of control over the scale of open spaces. Regarding services and facilities, they are organized within integrated spaces and structures inside the buildings or within autonomous

systems, such as large service centres connected to common areas that sometimes interact with the lower levels of the buildings. However, they generally remain separated from the open spaces due to differences in elevation and specialized uses, such as garages or cellars.

- In search of a 'measure' of space: The initiatives aim for a downsizing of interventions, questioning the scale increase experienced in the previous category. The trend toward functional integration of buildings is also reduced, favouring a more traditional placement of services on the ground floors or in specialized clusters, and simplifying the typological complexity of the buildings by returning to a composition of distinct types, such as linear blocks. The street, while still functioning as infrastructure, in some cases tends to establish a direct relationship with the building fronts. The space is open and continuous, but the dimensions are controlled thanks to the tendency to reduce the scale of the buildings. In some cases, there is an attempt to more clearly define the spaces, bringing them closer to the characteristics of traditional streets or courtyards, while services and facilities are generally concentrated in specialized clusters made up of autonomous buildings and only rarely integrated into the buildings themselves (still on the ground floors).
- The reassessment of traditional urban spaces: The scale of interventions is reduced, as is that of buildings and open spaces, to create a more measured living environment. High-rise buildings, such as towers or linear blocks, are avoided in favour of medium- to low-rise buildings that define more controlled spaces. The aim is to restore the traditional relationship between buildings and open space, with building facades shaping spaces that resemble streets, squares, or courtyards. The street is no longer seen exclusively as service infrastructure but as the main gathering place of the city, where all urban activities are concentrated. Courtyards, often partially open, can expand and become small parks framed by buildings that define their spaces. The open space is designed with well-defined forms and bounded by the building fronts. The proportion between the size of the open spaces and the height of the buildings creates a harmonious and well-balanced environment. Finally, services are concentrated in dedicated buildings, forming small clusters associated with urban spaces, such as squares, or integrated into the ground floors along the street. However, the low density and isolation of these interventions can sometimes lead to the failure of service activities.

5. Regenerating Proximity Spaces: an example from the Saint Vincent de Paul Eco-Quarter in Paris

The literature review concerned the study of best practices in the regeneration of shared (or proximity) spaces in established social contexts, in Italy and Europe. Among these, the case of the Saint Vincent de Paul eco-neighbourhood project in the city of Paris emerged. The Parisian neighbourhood differs from the selected Italian neighbourhoods in terms of morphology, history and geographical location; indeed, it was selected not for the morphological or social similarities but for the exemplary design choices that have been made and that could be a point of reflection in the regeneration strategies of the Neapolitan case. Saint Vincent de Paul (SVdP) neighbourhood experienced transitional urbanism, which included public debates with residents and workshops, as methodology of experimentation, that influenced design choices for the future project which will see a former 17th century hospital complex become an eco-district with a residential vocation. The French case is

emblematic for two main reasons: firstly, the participatory processes implemented in SVdP, and their influence on the neighbourhood regeneration project, represent a methodological example that can be replicated in the regeneration scenarios for Parco Verde, which will be developed following the living lab workshops (paragraph 7). Secondly, the choice was guided by the transformation of proximity spaces: terraces, communal areas, and shared gardens have been restored and have become accessible spaces for residents, following an approach based on participatory design. From paediatric hospital to eco-district, Saint Vincent de Paul, in the heart of the 14th arrondissement, represents an exemplary case of a dense, historic neighbourhood that transforms, reconstitutes, and rebuilds itself.

Figure 2. "Proximity spaces" within Les Grands Voisins temporary operation

Source: Yes We Camp

The ZAC (*Zone d'aménagement concerté*), created in 2016, is part of the strategic context adopted by the Ville de Paris for reconfiguring urban transformation methods. The ZAC covers an area of 3.4 hectares, on which, until the start of construction, stood sixteen buildings constructed between the 18th and 20th centuries (Mairie de Paris, 2014). The project involves the conversion of the former hospital complex into a predominantly residential neighbourhood, with more than 60% of the architectural heritage to be preserved; the remaining buildings will be deconstructed instead of demolished.

Thanks to the temporary operation, participatory practices and workshops led by Plateau Urbain, Aurore, and Yes We Camp, in 2015 Les Grands Voisins was created (Figure 2): a 'multi-place' that gained popularity over the years both for the numerous activities offered to citizens and for the social functions carried out by the associations. The design of each lot was entrusted, through competition, to a different architectural firm and develops different functions, to create a district which is sustainable in multiple aspects (Bocchino, 2023).

The residential area will represent 2/3 of the block and has been divided into three categories of housing:

- Social housing (50%);
- Freely accessible housing (25%);

- "Intermediate"[2] housing (25%).

One of the primary objectives was to increase shared spaces for the neighbourhood, that is, collective spaces that serve an entire block, a building, or the entire district. Making the "active bases" (*socles actifs*) functional is one of the methods used to create collective spaces accessible to all residents: these are located mostly on the ground floor of the buildings, in the courtyards, in the "Doctor's House," and the "Laundry Room". In direct contact with external space, they play an essential role in making the proximity spaces lively and attractive. The goal is to foster a creative community across the entire site and provide a real estate springboard for the social economy, craftsmanship, and creative activities through a policy of affordable and progressive rents.

The Pinard building, which once housed the maternity ward, is now a complex integrating a daycare, a school, and a gymnasium. The project by Chartier Dalix Architecture & Paysage envisions that multifunctional and shared spaces (Figure 3), especially the open spaces, will be accessible to all during non-school hours. The courtyard, covered playground, and dining hall are open to the public, and nearly the entire ground floor can be used for an open-air cinema, a performance, or a book fair. The mobility hub will provide shared services to residents, while the amphitheatre of the medical school, which will remain in the Lelong building, will be open to the neighbourhood.

The Saint Vincent de Paul experience demonstrates how careful and participatory planning can reinterpret and revitalize urban spaces, offering replicable models for similar contexts. The path toward a 'city of proximity' requires not only structural interventions but also a cultural shift that promotes social cohesion and collective well-being, opening up new possibilities for a more inclusive and sustainable urban future.

Figure 3. Proximity Spaces in the Pinard Building

Source: ChartierDalix, architecture & paysage
https://www.chartierdalix.com/en/projects/school-gymnasium-pinard-paris-14.

6. The Parco Verde in Caivano

The major case study the Neapolitan unit chose to deepen within the PRIN research project is "Parco Verde" neighbourhood: it falls within the third identified season

(1965-1985), and it belongs to the fourth morphological type. It is a public housing district in the municipality of Caivano (province of Naples) and it can be considered the last outpost of the Neapolitan metropolitan area. It has been chosen as principal case study for various reasons which are summarized below: it belongs to the category of public housing that tried to come back to search a new “measure of space” after the majestic macrostructures experience in the previous season (such as the Corviale in Rome or Le Vele di Scampia in Naples). As already mentioned in section 4, the category of 'In search of a “measure” of space' comprehends neighbourhoods in which the housing units correspond to smaller volumes, a more traditional placement of services on the ground floors or in specialized clusters is preferred, and in which the typological complexity of the buildings is simplified by returning to a composition of distinct types, such as towers, gallery-access buildings or, in the case of Parco Verde, linear blocks. The street, while still functioning as infrastructure, in some cases tends to establish a direct relationship with the building fronts. The space of proximity is open and continuous, but the dimensions are controlled thanks to the tendency to reduce the scale of the buildings.

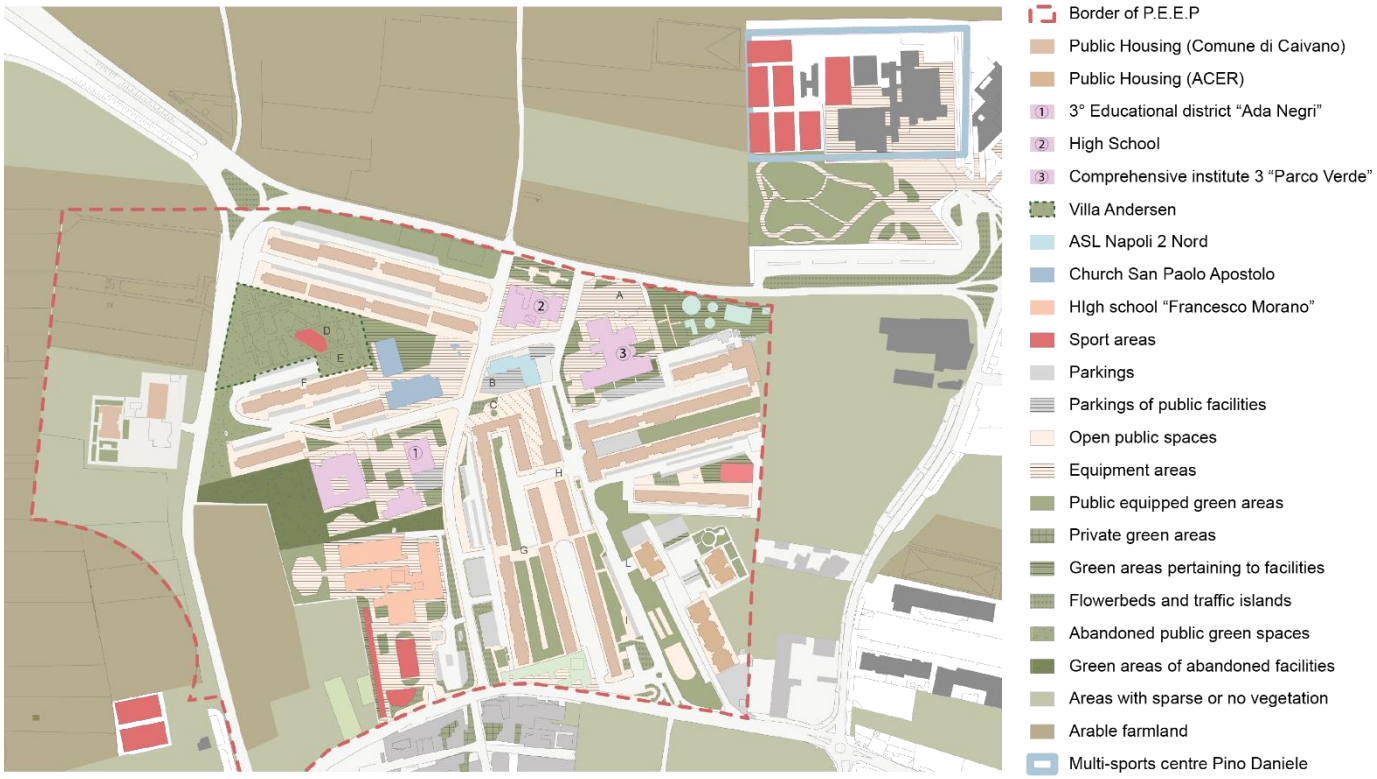
It is located on the outskirts of the municipality of Caivano, which itself lies on the periphery of the metropolitan area of Naples, bordering the Province of Caserta. Situated near an area characterized by strong industrial and entrepreneurial activity, with both agricultural and industrial zones (Libertini, 2021) - such as the industrial conglomerate "Pascarola" in the Naples Industrial Development Area - the neighbourhood was built in the 1980s in response to the sudden demand for housing caused by the 1980 Irpinia earthquake, which displaced more than three hundred thousand people in Campania. Entire neighbourhoods were rapidly constructed at that time, initially intended as temporary accommodations, based on post-earthquake commissioner projects, often lacking proper urban planning and essential services. The peripheric location of the neighbourhood and its physical and social degradation conditions are another factor that sets Parco Verde apart from the French eco district. This element makes Parco Verde an interesting case for urban planning analysis, and the comparative reading with the French case must highlight the need to investigate the impact that urban planning has on a neighbourhood’s marginalization. The morphological organization, instead, raises concerns about the perceived insecurity within proximity spaces and its effects on residents' quality of life.

The rapid urbanization of the neighbourhoods built after the earthquake, carried out without sustainable planning, produced long-term negative effects on the quality of life of the inhabitants and on the social and economic structure of these areas (Corsi & Franco, 1991). In the case of Parco Verde, the discrepancy between the programmatic and design intentions of the original plan and their actual implementation (Figure 4) represents another major cause of the area's issues. Although the original plan envisaged a broad system of services for citizens, the long delays - in some cases lasting decades - in the delivery of these services (when they were delivered at all), along with a lack of maintenance, significantly reduced, if not nullified, their effectiveness.

An example of this is the ex-Delphinia sports centre, now named after Pino Daniele, which opened only in 1999 (about twenty years after the neighbourhood's inception) and was closed in 2018 due to its poor condition. Similarly, numerous services, including schools and equipped parks, initially planned for the neighbourhood, have long been in a state of complete abandonment, rendering them unusable by residents. For instance, Villa Andersen (Figure 5), a one-hectare equipped green space, has been closed for years, abandoned to decay, and has become one of the area's drug dealing hotspots. Other services included in the plan, such as the construction of a

neighbourhood library and a social centre, were never realized.

Figure 4. Parco Verde Neighbourhood plan



Source: Author’s elaboration

Figure 5. Villa Andersen (public garden) in Parco Verde neighbourhood

Source: Riccardo Siano

Recent news events have further discredited the area's image, pushing Caivano and Parco Verde to the margins of the metropolitan social and cultural fabric. However, these same events have drawn the attention of policymakers to the neighbourhood's deteriorating conditions, prompting public revitalization efforts through a special decree issued on September 15, 2023, which was converted into law in November of the same year[3]. Among other measures, the law provides for "urgent infrastructure interventions in favour of the Municipality of Caivano", with the appointment of a Special Commissioner tasked with preparing an action plan using 30 million euros in resources[4]. One of the interventions outlined in the decree concerns the Pino Daniele sports centre; however, despite being only 500 meters from the residential area, it is perceived as distant due to the presence of a high-speed road that separates it from the neighbourhood, posing a significant obstacle. To understand the mechanisms at play within the social fabric of the neighbourhood, several interviews have already been conducted during the analytical phase of the research. Particularly insightful was the conversation with Bruno Mazza, a former prisoner who founded the association "Un'infanzia da vivere" in 2008 with the aim of helping local youth avoid harmful life paths.

Over the years, the association has contributed to creating facilities for the community, such as football fields on Viale Rosa, built with funding from the Fondazione per il Sud. The neighbourhood youth regularly use the fields, recognizing their importance as well as the need to protect them. A clear finding that emerged is that the residents of the neighbourhood feel a pressing need for consistent and sustained care of public goods, through regular maintenance efforts and the constant, daily presence of institutions. This request spans various areas: cleaning of streets and public spaces, monitoring of communal areas to ensure safety, and infrastructure maintenance to prevent urban decay. Residents wish to live in an environment that is not only dignified but also offers safe and comfortable living conditions, allowing them to enjoy well-maintained, secure, and accessible public spaces.

A broader request also emerged in the interviews: that institutional attention and investment be widespread in the regeneration of a struggling neighbourhood, rather than being limited to targeted interventions in specific locations that have become symbols of decay and media attention (Di Gennaro et al., 2024). Regenerative action would not only improve the quality of life for residents but also foster a greater sense of community identity and belonging, helping to strongly counteract the frequent phenomena of urban decay and social marginalization.

7. Living Lab and future developments

Based on the successful participatory experiences of the French case (transitional urban planning, workshops), the research will continue with the development and implementation of Urban Living Labs in the Neapolitan neighbourhood of Parco Verde and its proximity spaces (Figure 6). Living labs are based on two paradigms: open innovation and user-cantered innovation, which emphasize collaboration and user inclusion as key to the innovation process.

The open innovation concept, introduced in the early 2000s, aims to benefit businesses and organizations by integrating external knowledge and developing innovative solutions through a collaborative network of internal and external stakeholders (Hossain et al., 2019). The living lab model is based on this principle, extending it to the urban and ICT (information and communication technology) domain, where co-creation involves not only end users but also employees, local

administrators, and academic institutions (Niitamo et al., 2006; Følstad, 2008).

Figure 6. Proximity spaces in Parco Verde neighbourhood

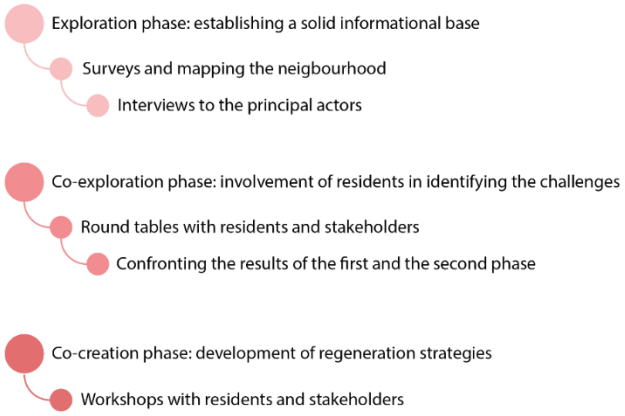
Source: Chiara Bocchino

In Parco Verde Living Labs serve as platforms for fostering collaboration between residents, community organizations, and local authorities, creating opportunities for shared dialogue and collective problem-solving. By directly engaging the community, the project aims to ground its recommendations in the lived experiences and priorities of Parco Verde residents. This initiative is central to achieve the project's overarching objectives, as it involves local stakeholders in decision-making processes, specifically through the co-design of strategies aimed at improving the resilience and sustainability of urban systems.

The Naples research team initiated the first phase of the Urban Living Labs (Figure 7) ("exploration phase"), in which interviews were conducted with various local social actors, including parish priest Don Maurizio Patriciello, Bruno Mazza, founder of the association "Un'infanzia da vivere", and former mayor of Caivano, Enzo Falco. Several site visits were also carried out, some of which involved students from the "Metodi e strumenti di pianificazione urbanistica" course. During these site visits, analyses were conducted regarding the physical conditions of the sites, as well as perceptual analyses of the neighbourhood (Figure 8). This first phase will inform the subsequent stage, "co-exploration phase". This second stage is crucial, as it will involve residents in identifying both the challenges they face and the potential opportunities within the neighbourhood. Various participatory tools will be employed to facilitate this process, including questionnaires and blank maps, designed to capture the diverse perspectives of the local population. Questionnaires will be simple and accessible, gathering data on a range of topics, from everyday needs to long-term aspirations for the area's development.

The final responses will provide critical insights into the community's priorities, helping the research team identify the most pressing issues to address.

Figure 7. Living Labs phases



Source: Author's elaboration

Figure 8. Urban Living Labs first phase in Parco Verde. Site visits with students

Source: Chiara Bocchino

Blank maps, on the other hand, will serve as a visual tool, allowing residents to illustrate their knowledge and perceptions of Parco Verde. Participants will be asked to mark areas of concern, such as neglected or underutilized spaces, alongside points of interest that they believe hold potential for improvement. This mapping exercise will help the research team gain a deeper understanding of how the neighbourhood is experienced by its residents and will highlight specific areas that require attention in the regeneration process. The combination of quantitative data from the questionnaires and qualitative insights from the maps will ensure a comprehensive view of the local context, setting the stage for informed decision-making.

In addition to these tools, the co-exploration phase will include collective brainstorming sessions, where residents will be encouraged to openly discuss their

experiences, share ideas, and propose solutions. These sessions will foster an inclusive environment, promoting active participation and ensuring that all voices are heard. One of the key methodologies to be employed is the "problem tree" technique, which will guide participants in identifying the main issues affecting the neighbourhood (represented by the trunk), their underlying causes (the roots), and potential solutions (the branches). This structured approach will enable participants to systematically analyse the challenges they face while collaboratively developing strategies to address them.

Following the co-exploration phase, the project will move into the "co-design workshops". During these sessions, the ideas and solutions generated through earlier discussions will be further refined and developed into concrete, actionable guidelines for the regeneration of Parco Verde collective spaces. The workshops will be structured to ensure inclusivity and foster collaboration among participants, using design thinking and other creative methodologies to stimulate innovative thinking. Participants will work in groups on specific themes, such as improving public spaces, enhancing local infrastructure, or fostering social cohesion. Each group will be tasked with developing proposals that will then be collectively reviewed, discussed, and validated by the larger group, ensuring that the final outcomes reflect the community's shared vision for the future of their neighbourhood.

The research team will then take on the responsibility of synthesizing the results of the co-design workshops into a detailed action plan. This plan will include practical strategies for the regeneration of collective spaces in Parco Verde, grounded in the participatory guidelines developed through the Living Labs. It will outline specific priorities, timelines for implementation, and the resources required to bring these initiatives to fruition. Furthermore, the plan will consider the long-term sustainability of the proposed interventions, ensuring that they contribute to the overall resilience of the neighbourhood and are adaptable to future challenges.

A crucial aspect of the action plan will be its focus on fostering a sense of ownership and belonging among the residents. By involving the community throughout the research process, from initial data collection to the development of solutions, the project aims to strengthen social cohesion and promote a collective sense of responsibility for the neighbourhood's future. This participatory approach is expected to not only improve the quality of life in Parco Verde but also to empower residents by giving them a direct role in shaping the development of their environment. Through sustained collaboration between the research team, local stakeholders, and the wider community, the project aspires to create a model for urban regeneration that is both socially inclusive and environmentally sustainable.

In conclusion, the future developments of the research project will be characterized by a strong emphasis on community engagement and participatory planning, with the Urban Living Labs playing a pivotal role in achieving the project's objectives. By grounding its recommendations in the lived experiences and aspirations of Parco Verde residents, the project aims to create resilient, inclusive, and vibrant urban spaces that reflect the community's collective vision for the future. Through these efforts, the project seeks to contribute not only to the regeneration of Parco Verde but also to the broader discourse on sustainable urban development and community-driven change.

Notes

1. PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022. Prot. 2022XZZYA5. Investigators: Milena Farina (Università degli Studi

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2. Housing intended for those with an income that is too high to qualify for public housing subsidies and too low to afford housing in the private sector.
3. Conversion Law No. 159 of November 13, 2023, titled: "Urgent measures to combat youth distress, educational poverty, and juvenile delinquency, as well as to ensure the safety of minors in the digital environment." (23A06292).
4. Cohesion and Development Fund, 2021-2027 programming period.

Author Contributions

Conceptualization, C.DB. e GG; Methodology, C.DB.; The "Season" of the Public City A.N.; Morphology, CDB.; Regenerating Proximity Spaces: an example from the Saint Vincent de Paul Eco-Quarter in Paris, CB; The Parco Verde in Caivano, GG, Future developments. C. DB., G.G., C.B, A.N.

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Conflicts of Interest

The authors declare no conflict of interest.

Originality

The authors declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere, in English or any other language. The manuscript has been read and approved by all named authors and there are no other persons who satisfied the criteria for authorship but are not listed. The authors also declare to have obtained the permission to reproduce in this manuscript any text, illustrations, charts, tables, photographs, or other material from previously published sources (journals, books, websites, etc).

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