Innovation Ecosystem: The Added Value in a Unique UNESCO City

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Abstract. The paper discusses an experimental approach oriented to define urban regeneration strategies for the city of Matera (Basilicata, Italy) to address the strategic issues of developing an "innovation ecosystem" as a high value urban development strategy. A group of students in an urban planning course conducted the research, selecting measures to improve specific urban components in a comprehensive view. The study provides a draft master-plan for a specific area of the city of Matera. It may contribute to the public debate on public investments in technological innovations for the strategic development of the former EU Capital of Culture 2019. The study highlights the advantages of the project, including a comprehensive view of specific problems and issues, a logical process to connect problems and solutions, and a reference matrix based on NUA principles. This research contributes to the development of tools and methodologies for NUA downscaling at the local level using innovative technologies and thematic components of urban design.

Keywords: New urban Agenda 2030 · Sustainability · Urban design · innovation ecosystem

1 Introduction

The concept of innovation in urban governance refers to the use of new ideas, methods, and technologies to improve the efficiency, effectiveness, and responsiveness of urban governance. The New Urban Agenda (NUA) [1, 2] represents the main list of global principles inspiring the design of the city of tomorrow getting on shoulders the principle of livability in urban areas, inclusiveness and sustainability.

Innovation HUB represents quite a common intervention category in urban regeneration as it represents a way to include the contribution of innovative SME and start-up in the design of urban fabric combining the benefits of functional regeneration with the strategic perspective of added value for the local socio-economic system. Innovation HUB are, in fact, an invariant of smart city strategy [3, 4], and realized different effects according to the implementation features.

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According to the NUA structure, the project analyzed the implementation of the principle of "AGE RESPONSIVE PLANNING" and proposed design hypotheses to improve the actual situation. In particular the target of the study was the young people between 20 and 35. It means students or young professionals facing the market and proposing innovation also in terms of new start-ups.

This is connected with the idea of Innovation HUB as a physical repository for innovative ideas and innovative business models but the students identify a distributed functional and infrastructural system in the center of Matera town where to approach urban innovation by the concept of innovation ecosystem.

Recent studies conducted at the University of Basilicata in Italy have shown that teaching sustainable development requires more and different tools, particularly in academia. The study involved students developing a project in Matera, which assessed the compliance of NUA principles in a specific sample area [5–12].

The study demonstrated the effectiveness of an academic teaching approach on scaling down NUA principles and provided a preliminary structure for developing new tools to reinforce the new generation of territorial technicians, particularly engineers and architects. In conclusion, this paper highlights the key arguments and recommendations for future applications of the NUA in urban planning and territorial management, emphasizing the importance of sustainable development in urban areas.

2 Background and Scope of the Research

The term "innovation ecosystem" refers to the interconnected network of various individuals, organizations, institutions, and resources that collectively contribute to the development, implementation, and diffusion of innovative ideas, products, and services. This includes entrepreneurs, researchers, investors, policymakers, and other stakeholders who work together to create an environment that fosters innovation and supports its growth. The innovation ecosystem involves both formal and informal mechanisms, such as research institutions, incubators, accelerators, funding sources, regulatory frameworks, and cultural attitudes towards risk-taking and entrepreneurship. A thriving innovation ecosystem can have significant positive effects on economic growth, job creation, and social progress.

Innovation ecosystems and urban regeneration are closely connected, as innovation can play a key role in driving urban regeneration efforts. By fostering collaboration between actors within an innovation ecosystem, new technologies and approaches can be developed that support the goals of urban regeneration. For example, new businesses and industries can be attracted to an area, generating economic growth and creating new jobs. In addition, innovative solutions can be developed to address social and environmental challenges, such as reducing carbon emissions, improving public health, or increasing access to affordable housing.

Overall, innovation ecosystems and urban regeneration are mutually reinforcing concepts that can support each other's goals. By creating an environment that fosters innovation, urban regeneration efforts can be more effective, and by supporting urban regeneration, innovation ecosystems can generate economic, social, and environmental benefits for communities.

In this case we adapt the concept of innovation ecosystem to a peculiar urban context: the City of Matera. Matera was the EU Capital of CUlture in 2019 and it is actually recognized worldwide for its unique urban fabric marked by "Sassi" districts, an ancient settlement climbing a natural canyon (the "Gravina").

The identity of the place is linked to the historical capital combined with a number of rural traditions influencing social habits, foods, arts etc.

The city benefits from Matera 2019 EU COC in terms of tourism flows and the local tourism system developed extensively. Actually, the debate about the future of the city opens a question about a new effective strategy integrating tourism marked with a high added value sector.

The presence of the University and research center in the town combined with other key business operators opens a perspective to realize an innovation ecosystem in the core of the town.

This proposal, coherently with NUA recommendations, opens a qualitative studio experience with architectural MSc students, synthetically reported in this paper.

3 The Case Study and the Target

In the sustainability criteria of the New Urban Agenda, it is important to consider planning that is age-appropriate and responsive to the needs of each citizen. Taking into account the preservation and protection of the environment and proactive planning to ensure a better future for the population, it is intended to promote quality growth and social cohesion. In particular, there is a need for a connection between the world of work and young people, creating new opportunities in urban planning to enhance skills and abilities in the world of work. The development of new emerging enterprises is essential to ensure a long-term economic future and to prevent young people from being uneducated, formed and employed.

The ISTAT permanent business census in 2019 shows that the local business system compared to the national system is weak, both in terms of numbers and scope. It shows a low capacity for internationalization, collaboration and financing, but also for investment in digital technologies.

The 'age responsive planning' target relative to a population bracket between 20 and 35 years of age was applied to an area of the city of Matera where most of the economic life takes place, i.e. between the business center and the Piano, and extends from the Macamarda Park to the Province Palace, involving Don Minzoni Street, Vittorio Veneto Square, S. Biagio Street, S. Giovanni Square, Corso Street, S. Francesco Square, Ridola Street, part of Lucana Street and Lanera Street (Fig. 1).

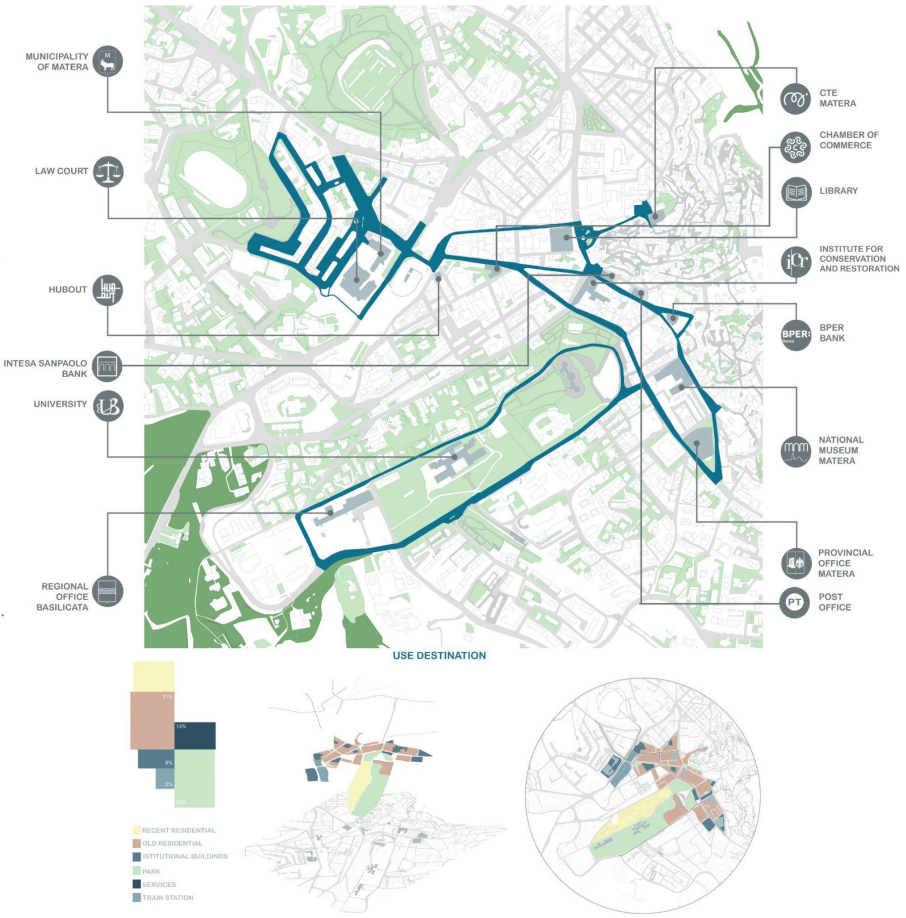


Fig. 1. Study area with indication of social incubators and composition of destination use.

Analyzing the urban framework and thus the set of services offered to citizens, we have a composition of the area's destination use consisting of the historical fabric (31%) and parks (28%), while services (13%), institutional and residential buildings account for 8% and 15% of the total respectively and the remaining 5% is occupied by the train station.

For the project theme 'ecosystem of innovations', all the enclosures where working life takes place were identified, as shown on the map: the Inland Revenue Agency, Intesa Sanpaolo Bank, the National Library, BPER Bank, the Chamber of Commerce, the House of Technology, the Municipality of Matera, the HubOut, the Institute for Conservation and Restoration, the National Museum, the Italian Post Office, the Prefecture, the Province, the Region, the Law Court and the University of Basilicata. These are linked by principles of proximity and interrelationships which, if functionally linked, can constitute a balanced, renewed and sustainable ecosystem of innovation production. The capacity of the innovation ecosystem is to create a network of individuals, entities,

resources and structures that unite intentions, thereby catalyzing the emergence of new products, ideas, methods and systems.

These principles have been applied in various contexts and we can take as reference successful ecosystems such as Apple park, Googleplex and Nvidia Headquarters located in California (USA) or in Italy LUISSenlab and PoliHub that through start-ups, university laboratories and companies redesign the future through technological innovation in co-working spaces.

The intention is to create a network for sharing projects in places and spaces to innovate and redevelop in an excellent location, the heart of the city of Matera, in order to attract ideas and funding for young people from Lucania and not only.

4 Defining an Ecosystem

The limited job offer in digital services assumes relevant characteristics for young people under 35 in cities distant from the nation's main infrastructure system. The study conducted emphasizes the absence of employment in high-tech industries, and Fig. 2 illustrates how this weak sector is concentrated in a 15-min radius. The system that has been discovered includes a number of institutional and non-institutional actors that, when connected, can create the possibility of creating a network of support for widespread initiatives and skills. The proximity condition represents an added value to encourage the exchange of ideas. San Rocco Hub is part of the localized services which, in comparison



Fig. 2. Study area with indication of distance from the ecosystem center and services benchmark analysis

with other similar realities that have distinguished themselves internationally for being incubators of innovation, fails to have a significant impact on urban realities.

Within the thematic area identified, two buildings in a strategic position in a state of abandonment are undergoing redevelopment in order to implement the services and offer a meeting space and Co-Working spaces (Fig. 3).

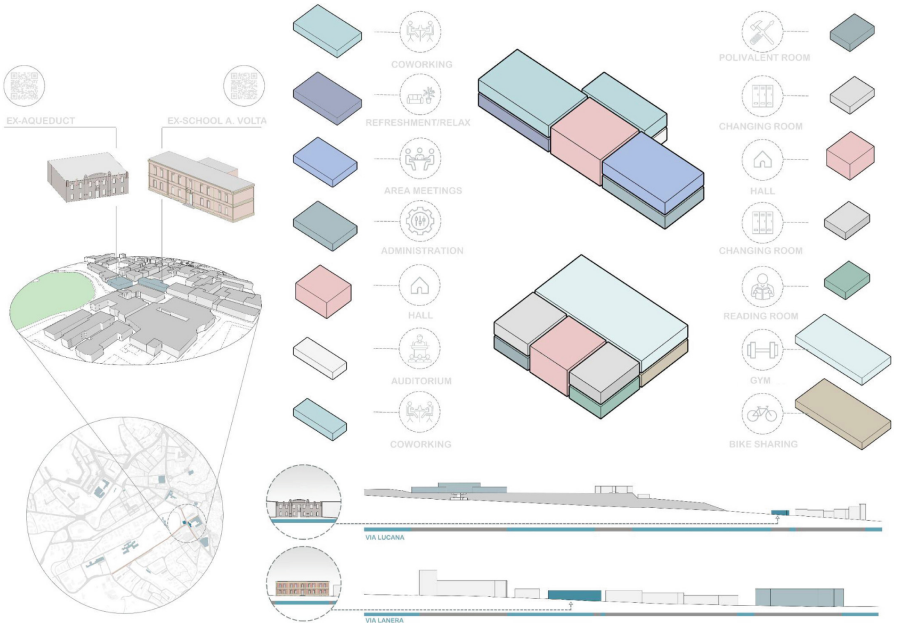


Fig. 3. Co-working regeneration design hypothesis

5 Discussioni e Conclusioni

The paper discusses an experimental approach oriented to define urban development strategies for the city of Matera (Basilicata, Italy) [13] to address the strategic issues of innovation ecosystem as a complex framework of structure and infrastructure that in the center of the Matera can be structured in a distributed system ensuring minimum requirements of innovative business development.

The approach was structured on NUA principles and follow the way of "downscaling" NUA at local level [14–18].

The methodology, in facts, starts to define the city users' target according to the principle of "AGE RESPONSIVE PLANNING": young people between 20 and 35. It means students or young professionals facing the market and proposing innovation also in terms of new start-ups. According to an assessment of the specific place conditions, mainly related to the local supply of services directly and indirectly linked to the research topic. The design process highlighted intervention categories distinguishing between soft actions and infrastructures.

The research results actually represent a draft master-plan developed in urban planning academic class that could contribute to the public debate on the university city role as a driver for strategic urban development in Matera. The recommendation to adopt collaborative design framework is widely accepted and robust approach has to be adopted to put in practice the operational implementation of such proposal [19–23].

Main evidences refer to the topic of "teaching downscaling of NUA" as a new technical demand for the next generation of territorial technicians. The experiment allowed to identify specific benefits compared to the traditional urban regeneration approach: an extended comprehensive view of specific problems and issues to be addressed by the project; a rational process in verifying the logical nexus between problems, place conditions and potential solutions; a reference matrix based on NUA principle to measure impacts and results of the proposal as a robust accounting system to give evidence of the quality of the design.

Limitations regards the academic dimension of the laboratory, only partially connected with procedural and administrative rules and constraints characterizing the case study.

This research contributes to the open question [17, 18, 24, 25] regarding tools and methodologies to support NUA downscaling at local level [26–31] adopting innovative technologies [22, 32] on thematic component of urban design [33, 34].

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