"University Equity": Students' Facilities in Major Tourism Destination Towns

Miriam Capodiferro[1], Domenico Colonna[1], Michele Marvulli[1], Giovanna Andrulli[1], Rachele Vanessa Gatto[2], Mariavaleria Mininni[1], and Francesco Scorza[2(✉)]

[1] Department of European and Mediterranean Cultures, University of Basilicata, Via Lanera, Matera, Italy

[2] School of Engineering, University of Basilicata, Viale dell'Ateneo Lucano, Potenza, Italy

francesco.scorza@unibas.it

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 the university students group intended as a specific city user category. A group of students in an urban planning course conducted the research, selecting measures to improve specific urban components such as green spaces, unused buildings, and pedestrian safety near schools. The study provides a draft masterplan for Matera, which can contribute to the public debate on "Child responsive" urban planning and support the city's cultural and tourism development strategy. 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 · University City · Sustainable development

1 Introduction

The main objective of the Cohesion Policy is to promote greater equity and cohesion among the regions of the European Union through the allocation of funds to balance

The New Urban Agenda (NUA) [1, 2] represents the main list of global principles inspiring the design of the city of tomorrow. It comes from agreements among major stakeholder groups at global level involved in urban planning and territorial management. The NUA is closely linked to global sustainability targets, resulting in a new form of commitment in public decision-making [3]. The objective 11 of SDGs "Make cities and human settlements inclusive, safe, resilient and sustainable" is the mainframe of the NUA where the dimensions of contemporary urban living are explored in a people centered perspective [4–9]. According to the United Nations, the NUA is a global commitment to promote sustainable urban development. The current phase of implementation of

© The Author(s), under exclusive license to Springer Nature Switzerland AG 2023
O. Gervasi et al. (Eds.): ICCSA 2023 Workshops, LNCS 14110, pp. 3–13, 2023.
https://doi.org/10.1007/978-3-031-37123-3_1

the NUA makes it relevant to investigate how this global commitment may effectively generate local innovations in urban management practices [10, 11].

Scaling down the NUA principles and objectives to specific study areas is an ongoing process and is an emerging topic for urban studies [12]. Actually, the results of this process mainly go through the description of case studies or best practices due to the complexity to identify unique (or many) procedures of implementation. This is expectable due to the complexity of urban management in front of such ambitious and innovative goals, but the territorial professionals demand for more specific and operative guidance in order to apply locally [13].

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. The project analyzed the implementation of the principle of "AGE RESPONSIVE PLANNING" and proposed design hypotheses to improve the situation. This principle is included in the dimension of Social Sustainability and represents a challenging topic that opens urban studies towards new design perspectives applied to the city of the future. The case study target is represented by the University' students as a specific group of city users that demand for specific services and facilities.

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 UN's adoption of the Sustainable Development Goals (SDGs) has led to the integration of sustainable development into public policy making. The SDGs consist of 17 global goals and 169 targets aimed at achieving poverty reduction, protecting the planet, and ensuring peace and prosperity for all. One of the SDGs, SDG 11, focuses on making cities and human settlements inclusive, safe, resilient, and sustainable. The SDGs provide a framework for action on sustainable development and promote the integration of economic, social, and environmental policies.

Teaching sustainability in urban studies [14, 15] involves incorporating sustainable development concepts and practices into the study of cities and human settlements. This approach recognizes the interconnectedness of economic, social, and environmental issues in urban areas and aims to address them in a holistic and integrated way. Additionally, toward the principles and objectives of the New Urban Agenda (NUA), new specific tools and methodology should be provided in order to generate an alternative critical vision of the city in the young generation of university students, especially in the territorial technical degree curricula. Urban development and management principles didn't change but the way in which the new requirements identified by NUA has to be implemented in practices generated a new demand for tools and methods.

In this path, the research discussed in this paper shows an experiment of NUA downscaling in a specific case study simulating practical applications that allow students to experiment with the design of urban transformations through the lens of the NUA.

This research focuses on the city of Matera, a unique context that is a UNESCO site and was selected as the EU Capital of Culture in 2019 [16]. The study aims to verify the level of compliance of the "urban structure" with NUA specific objectives. The "urban structure" refers to the physical and social arrangement of a city, including its built environment, transportation networks, open spaces, and land uses. It can significantly impact a city's livability, sustainability, and economic vitality. An effective urban structure can support a high quality of life for residents, promote efficient use of resources, and facilitate economic growth and development.

In the specific case study the issue to improve the university city character of the place in order to enhance university students inclusion in the city has to be coupled with the tourism specialization of the place [17–19].

3 The Case Study and the Target

Planning and managing urban spaces in a sustainable way is critical for improving the quality of life of inhabitants and, as Goal 11 of the 2030 Agenda proposes, for making cities and human settlements inclusive, safe, and resilient. In particular, social sustainability requires that cities meet the needs of all inhabitants with equality for all in access to services and by promoting interaction among individuals and civic engagement. To achieve these goals, it is necessary to do targeted planning and define target assets by age. The target audience of young university students between the ages of 19 and 30 looks at programming of interventions related to gender equality, urban participatory process, wellness, and technological innovation, seeking to provide opportunities and services on par with students belonging to other Italian universities.

The project theme taken into analysis is that of university equity, and the area of intervention includes the Matera campus of the University of Basilicata and its conterminous areas, such as the Lanera district and the Piano area bordering the historic center and the Business Center with the central station [20].

The map describing the actual asset of the urban area highlights the university campus and the assessment of services closely related to students, namely the quality of residences, spaces and facilities for sports and wellness, and basic necessities and leisure services. In this regard we distinguish three different areas and routes:

- the area near the university is strongly residential and students find opportunities for rental housing, but the quality of the buildings is not always very good and we distinguish in good, mediocre and very bad the external state of preservation of the buildings. This area is affected by the red route to connect it to the transportation system and thus to the Matera Central and Matera South train stations and bus stops;
- the area related to sports includes the "Duni" School camp, the "Palasassi" sports center and the "Macamarda" Park, as well as public or private gyms and soccer fields, and is affected by the orange route to connect it to the university campus;

– the services and leisure area is located in the City Plan area and is affected by a strong concentration of services related to commerce and food services that connect the green route to the university.

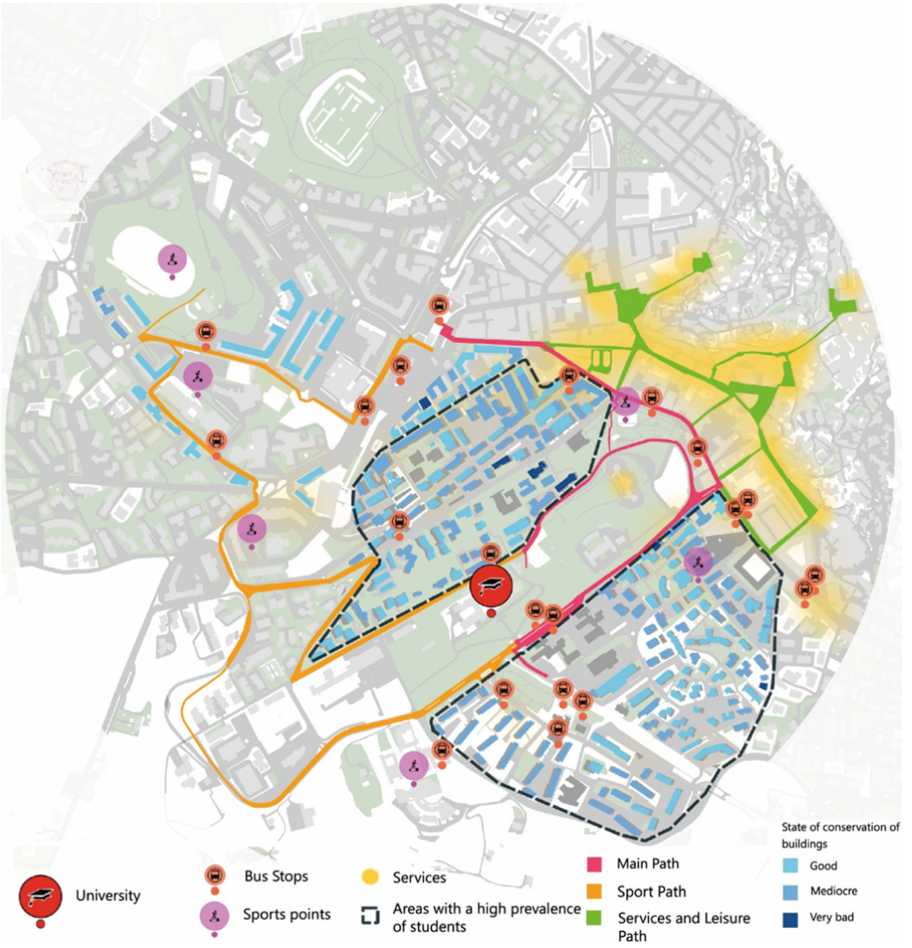

Fig. 1. Map of the study area with indication of routes, services related to sports and leisure and the quality of residences for university students.

Finding the cross-relationships of the university site with the context allows us to reflect on urban functions and urban land-use by combining the analysis of infrastructure, greenery, and primary services and facilities and to question fundamental questions. What is the role of the university in a city like Matera? Is it important that the hub be located on one of the highest hills in the city? Is the system of proximity services adequate to the needs of university students? The critical analysis of the results presented in the next section highlights how new urban development strategies make it possible to control and interpret the transformations of the territory and, at the same time, to provide a clear and strong urban-oriented imaginary that is more organic and collaborative for university students who will want to make qualified innovation.

4 "University Equity"

The critical study begins with a thorough examination of the conditions of the locations and services that make up the urban fabric. The emphasis is on the requirements, living arrangements, and inherent possibilities of locations associated with university students. By reconstructing the regular activities, nearby locations with thematic specification qualities have been mapped and classified in a predefined set of categories. This is in line with the descriptions of the three study areas, which are the major destination, the services and leisure area, and the sports area.

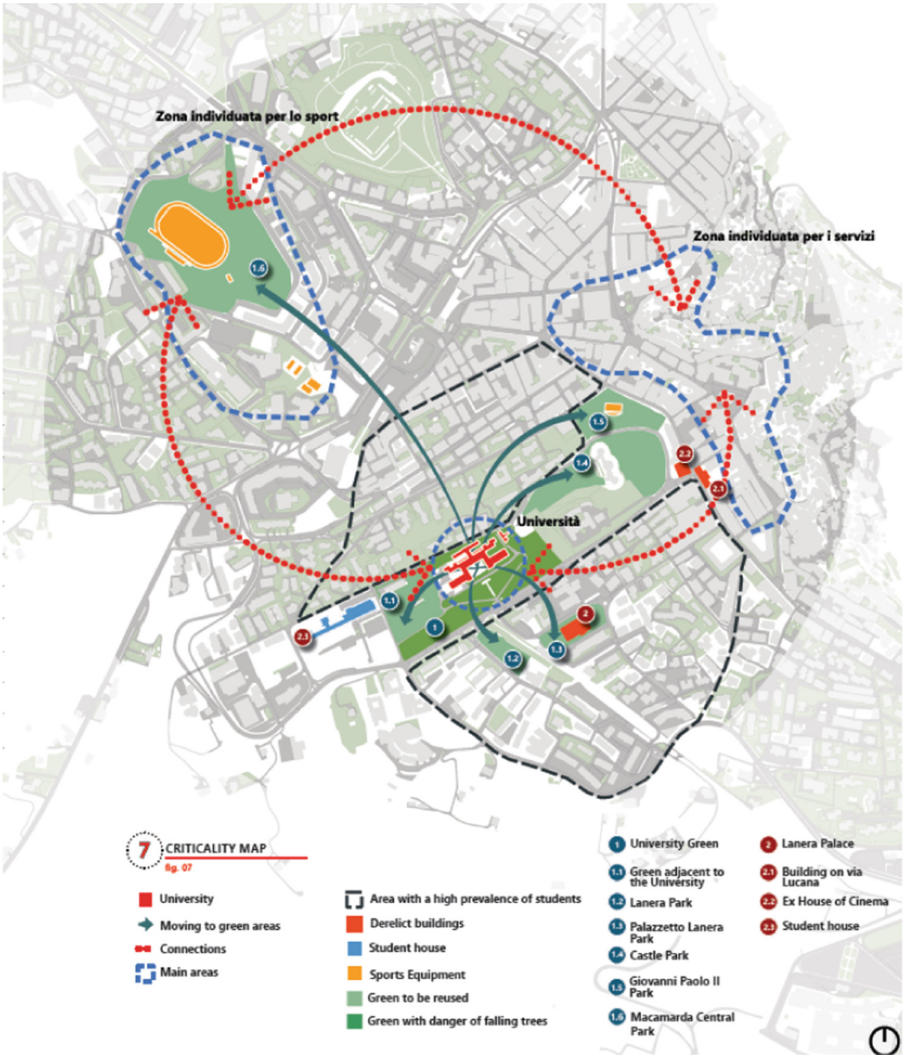

Fig. 2. Map of the study area with indication of critical points

The map shows how, in the close surrounding of the University Campus, a number of potential urban component are available for regeneration option in order to realize

a sub-urban system oriented to satisfy the need of university users improving their quality of life and, consequently, enhancing the added value for the whole town from a socio-economic point of view.

The services provided by Italian universities with the highest levels of user satisfaction were analyzed in order to identify and define the framework of demands. In the next figure an overall comparison between the Campus in Matera and other Italian University City Campus is proposed referring to some general categories of university services and facilities. The survey, developed in a qualitative way, has not the ambition to be complete and to define a comprehensive assessment af such a complex system, but it is representative of the perception of a specific group of students.

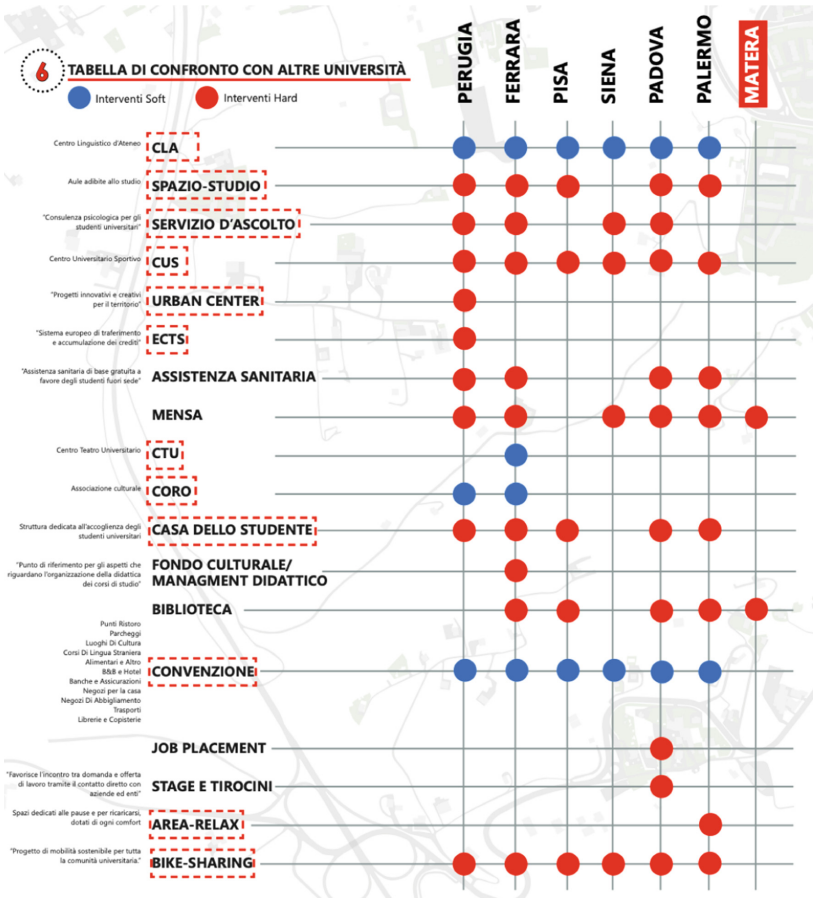

Fig. 3. Campus benchmark and main services evidence

It emerged a significative gap comparing the Matera Campus with selected benchmarks, in particular adequate recreation, cultural and sport facilities are missing.

The identified needs, represented as "the lack of" a specific service for the university students target, is a driver to identify a strategy and the consequent actions to improve the situation.

As can be seen, the supply basin is considerably smaller than the medium sized Italian University Campus, endangering the quality of service supply due to inefficiency and consequently the living experience of students during their university live in the Campus and in the city. The "soft" and "hard" acts used in the intervention method, which aims to improve quality of life, come together at the confluence of local crucial situations and identified requirements.

Moving from the deficit analysis and considering the specific place characteristics project actions was proposed in the design perspectives.

The project actions include:

– the creation of a ring that encourages sustainable mobility and represents a safe path that relates the previously identified thematic areas characterized by discontinuous segments for pedestrians;

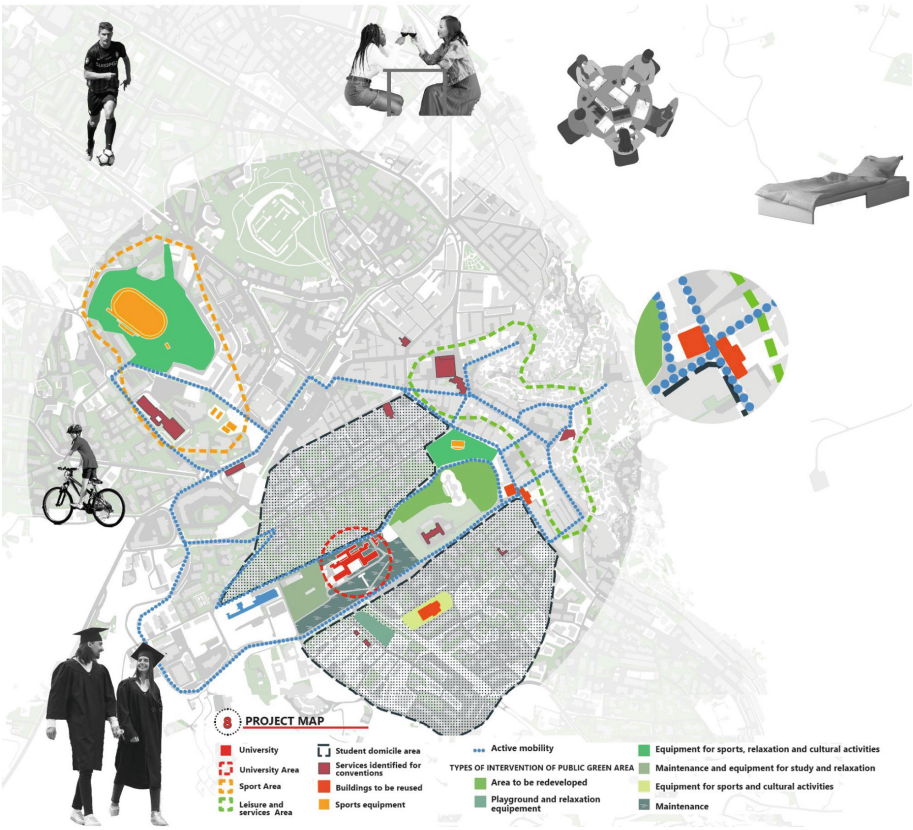

Fig. 4. Map of the study area with indication of design choices

– re-functionalization of selected abandoned buildings to be used as social-housing with price control;
– a hub dedicated to social welfare services for students integrating uses and practices revealed by the analysis of trends in other universities.

The previous Figure identifies main actions per intervention categories. This intervention scenario represents a draft masterplan to be discussed with local stakeholder in order to set priorities, responsibilities and operational dimension of the interventions.

5 Discussions and Conclusions

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 the university students group intended as a specific city user category.

The approach was structured on NUA principles and follow the way of "downscaling" NUA at local level [17, 21–25].

The methodology, in facts, starts to define the city users' target according to the principle of "AGE RESPONSIVE PLANNING". According to an assessment of the specific place conditions, mainly related to the local supply of services directly and indirectly linked to the University Campus and the demand of the target group, a comparison with other Italian University Campus had been proposed selecting benchmark located in other cities with similar urban dimensions compared to the case study. 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 [26– 31].

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 [32–39].

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 regarding tools and methodologies to support NUA downscaling at local level adopting innovative technologies [25, 40] on thematic component of urban design [35–39, 41].

References

1. UN HABITAT: New Urban Agenda. United Nations (2016)
2. Las Casas, G., Scorza, F., Murgante, B.: New urban agenda and open challenges for urban and regional planning. In: Calabrò, F., Della Spina, L., Bevilacqua, C. (eds.) ISHT 2018. SIST, vol. 100, pp. 282–288. Springer, Cham (2019). https://doi.org/10.1007/978-3-319-92099-3_33
3. McCann, P., Ortega-Argilés, R.: Smart specialization, regional growth and applications to European union cohesion policy. Reg. Stud. **49**, 1291–1302 (2015). https://doi.org/10.1080/00343404.2013.799769
4. Vona, M., Harabaglia, P., Murgante, B.: Thinking about resilient cities: studying Italian earthquakes. Proc. Inst. Civ. Eng. Urban Des. Plann. **169**(4), 185–199 (2016). https://doi.org/10.1680/udap.14.00007
5. Murgante, B., Borruso, G., Lapucci, A.: Sustainable development: concepts and methods for its application in urban and environmental planning. Stud. Comput. Intell. **348**, 1–15 (2011). https://doi.org/10.1007/978-3-642-19733-8_1/COVER
6. Las Casas, G., Scorza, F., Murgante, B.: Razionalità a-priori: una proposta verso una pianificazione antifragile. Italian J. Reg. Sci. **18**, 329–338 (2019). https://doi.org/10.14650/93656
7. Murgante, B., Borruso, G., Lapucci, A.: Geocomputation and urban planning. Stud. Comput. Intell. **176**, 1–17 (2009). https://doi.org/10.1007/978-3-540-89930-3_1/COVER
8. Scorza, F., Pilogallo, A., Saganeiti, L., Murgante, B.: Natura 2000 areas and sites of national interest (SNI): measuring (un)integration between naturalness preservation and environmental remediation policies. Sustainability **12**(7), 2928 (2020). https://doi.org/10.3390/su12072928
9. Saganeiti, L., Mustafa, A., Teller, J., Murgante, B.: Modeling urban sprinkling with cellular automata. Sustain. Cities Soc. **65**, 102586 (2021). https://doi.org/10.1016/J.SCS.2020.102586
10. Scorza, F.: Training decision-makers: GEODESIGN workshop paving the way for new urban agenda. In: Gervasi, O., et al. (eds.) ICCSA 2020. LNCS, vol. 12252, pp. 310–316. Springer, Cham (2020). https://doi.org/10.1007/978-3-030-58811-3_22
11. Casas, G.L., Scorza, F.: From the UN new urban agenda to the local experiences of urban development: the case of Potenza. In: Gervasi, O., et al. (eds.) ICCSA 2018. LNCS, vol. 10964, pp. 734–743. Springer, Cham (2018). https://doi.org/10.1007/978-3-319-95174-4_56
12. Andersson, C.: Public space and the new urban agenda. J. Public Space. **1**, 5 (2016). https://doi.org/10.5204/JPS.V1I1.4
13. Tidball, K.G., Krasny, M.E.: Urban environmental education from a social-ecological perspective: conceptual framework for civic ecology education. Cities Environ. **3**(1), 1–20 (2010). https://doi.org/10.15365/cate.31112010
14. Bina, O., Balula, L., Varanda, M., Fokdal, J.: Urban studies and the challenge of embedding sustainability: a review of international master programmes. J. Clean Prod. **137**, 330–346 (2016). https://doi.org/10.1016/J.JCLEPRO.2016.07.034
15. Li, N., Chan, D., Mao, Q., Hsu, K., Fu, Z.: Urban sustainability education: challenges and pedagogical experiments. Habitat Int. **71**, 70–80 (2018). https://doi.org/10.1016/J.HABITATINT.2017.11.012
16. Mininni, M., Dicillo, C.: Urban policies and cultural policies for Matera en route to 2019 | Politiche urbane e politiche culturali per Matera verso il 2019, Territorio (2015)
17. Scorza, F., Gatto, R.V.: Identifying territorial values for tourism development: the case study of Calabrian Greek area. Sustainability **15**(6), 5501 (2023). https://doi.org/10.3390/su15065501
18. Gatto, R., Santopietro, L., Scorza, F.: Tourism and abandoned inland areas development demand: a critical appraisal. In: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). 13382 LNCS, pp. 40–47 (2022). https://doi.org/10.1007/978-3-031-10592-0_4/COVER

19. Gatto, R., Santopietro, L., Scorza, F.: Roghudi: Developing knowledge of the places in an abandoned inland municipality. In: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 13382 LNCS, pp. 48–53 (2022). https://doi.org/10.1007/978-3-031-10592-0_5/COVER
20. Mininni, M.: Matera Lucania 2017. Quodlibet (2017). https://doi.org/10.2307/j.ctv2gz3xk0
21. Lagonigro, D., et al.: Downscaling NUA: matera new urban structure. In: Gervasi, O., (ed.) Computational Science and Its Applications - ICCSA 2023. Springer (2023)
22. Florio, E., et al.: SuperABLE: Matera accessible for all. In: Gervasi, O. (ed.) Computational Science and its Applications - ICCSA 2023. Springer (2023)
23. Esposito Loscavo, B., et al.: Innovation ecosystem: the added value in a unique UNESCO city. In: Gervasi, O. (ed.) Computational Science and Its Applications - ICCSA 2023. Springer (2023)
24. Gatto, R.V., Corrado, S., Scorza, F.: Towards a definition of tourism ecosystem. In: 18th International Forum on Knowledge Asset Dynamics (IFKAD) - Managing Knowledge for Sustainability (2023)
25. Corrado, S., Scorza, F.: Machine learning based approach to assess territorial marginality. In: Gervasi, O., Murgante, B., Hendrix, E.M.T., Taniar, D., Apduhan, B.O. (eds.) Computational Science and Its Applications – ICCSA 2022. ICCSA 2022. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), vol. 13376. LNCS, pp. 292–302 (2022). https://doi.org/10.1007/978-3-031-10450-3_25/COVER
26. Campagna, M.: Metaplanning: about designing the geodesign process. Landsc. Urban Plan. **156**, 118–128 (2016).https://doi.org/10.1016/J.LANDURBPLAN.2015.08.019
27. Campagna, M.: Geodesign from theory to practice: from metaplanning to 2nd generation of planning support systems. Tema – J. Land Use Mob. Environ. (2014). https://doi.org/10.6092/1970-9870/2516
28. Scorza, F.: Sustainable urban regeneration in Gravina in Puglia, Italy. In: Fisher, T., Orland, B., Steinitz, C. (eds.) The International Geodesign Collaboration. Changing Geography by Design, pp. 112–113. ESRI Press, Redlands, California (2020)
29. Steinitz, C.: A Frame Work for Geodesign. Changing Geography by Design (2012)
30. Steinitz, C., Orland, B., Fisher, T., Campagna, M.: Geodesign to address global change. In: Intelligent Environments, pp. 193–242. Elsevier (2023). https://doi.org/10.1016/B978-0-12-820247-0.00016-3
31. Scorza, F., et al.: Training for territorial sstainable development design in basilicata remote areas: GEODESIGN workshop. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). 13379 LNCS, pp. 242–252 (2022). https://doi.org/10.1007/978-3-031-10545-6_17
32. Las Casas, G., Scorza, F., Murgante, B.: Conflicts and sustainable planning: peculiar instances coming from Val D'agri structural inter-municipal plan. In: Papa, R., Fistola, R., Gargiulo, C. (eds.) Smart Planning: Sustainability and Mobility in the Age of Change. GET, pp. 163–177. Springer, Cham (2018). https://doi.org/10.1007/978-3-319-77682-8_10
33. Casas, G.L., Scorza, F.: Sustainable planning: a methodological toolkit. In: Gervasi, O., et al. (eds.) ICCSA 2016. LNCS, vol. 9786, pp. 627–635. Springer, Cham (2016). https://doi.org/10.1007/978-3-319-42085-1_53
34. Scorza, F.: Improving EU cohesion policy: the spatial distribution analysis of regional development investments funded by EU structural funds 2007/2013 in Italy. In: Murgante, B., et al. (eds.) ICCSA 2013. LNCS, vol. 7973, pp. 582–593. Springer, Heidelberg (2013). https://doi.org/10.1007/978-3-642-39646-5_42

35. Santopietro, L., Scorza, F.: The Italian experience of the covenant of mayors: a territorial evaluation. Sustainability **13**, 1289 (2021). https://doi.org/10.3390/su13031289
36. Scorza, F., Santopietro, L.: A systemic perspective for the sustainable energy and climate action plan (SECAP). Eur. Plann. Stud. 1–21 (2021). https://doi.org/10.1080/09654313.2021.1954603
37. Scorza, F., Fortunato, G.: Active mobility-oriented urban development: a morpho-syntactic scenario for a mid-sized town. Eur. Plann. Stud. 1–25 (2022). https://doi.org/10.1080/09654313.2022.2077094
38. Scorza, F., Fortunato, G.: Cyclable cities: building feasible scenario through urban space morphology assessment. J. Urban Plan Dev. **147**, 05021039 (2021). https://doi.org/10.1061/(ASCE)UP.1943-5444.0000713
39. Pilogallo, A., Scorza, F.: Mapping regulation ecosystem services specialization in Italy. J. Urban Plan Dev. **148**(1), 04021072 (2022). https://doi.org/10.1061/(ASCE)UP.1943-5444.0000801
40. Dastoli, P.S., Pontrandolfi, P., Scorza, F., Corrado, S., Azzato, A.: Applying geodesign towards an integrated local development strategy: the Val d'Agri case (Italy). In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. ICCSA 2022. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). 13379 LNCS, pp. 253–262 (2022). https://doi.org/10.1007/978-3-031-10545-6_18
41. Scorza, F., Saganeiti, L., Pilogallo, A., Murgante, B.: Ghost planning: the inefficiency of energy sector policies in a low population density region1. ARCHIVIO DI STUDI URBANI E REGIONALI, pp. 34–55 (2020). https://doi.org/10.3280/ASUR2020-127-S1003