INCLUSIVE CITIES AND REGIONS
TERRITOIRES INCLUSIFS

14° Biennale of European Towns and Town Planners, Naples

Edited by
Marichela Sepe

#Special Workshop

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Francesco Domenico Moccia

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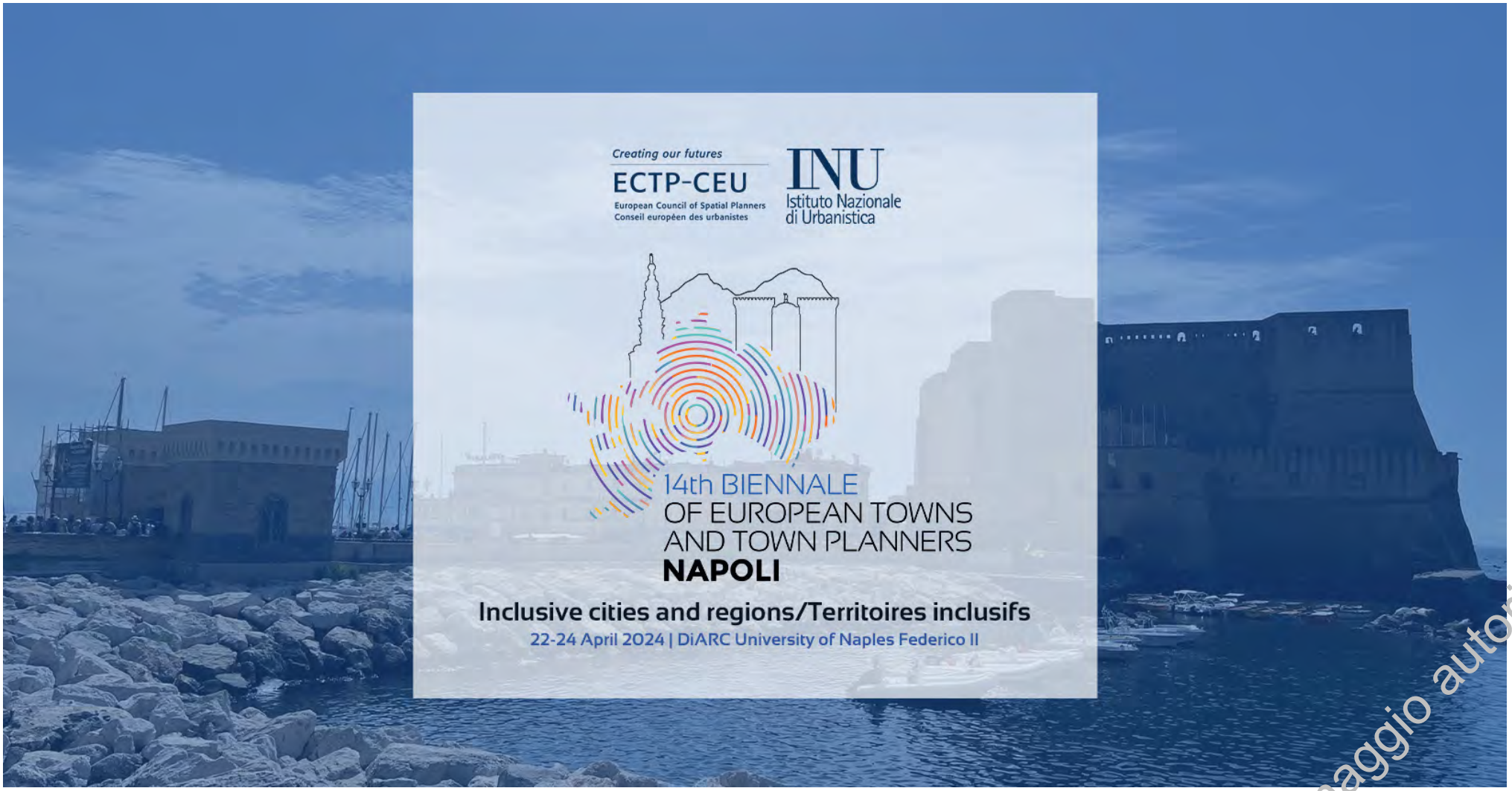

INCLUSIVE CITIES AND REGIONS/TERRITOIRES INCLUSIFS
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Foreword
Inclusive Places and People

*Marichela Sepe**

The Biennial of European Towns and Town Planners is an event of the European Council of Urban Planners ECTP-CEU which aims at discussing the main issues in the European debate relating to urban planning by sharing them with urban planners, architects, engineers, economists, sociologists, historians of architecture, citizens, politicians, private and non-governmental organizations (NGOs).

Since the first edition in 1995, problems have been debated at the Biennials, experiences have been exhibited and alternative solutions have been proposed.

The theme chosen for the 14° Edition, organized from 22 to 24 April 2024 in Naples with the INU as the main organizer, is Inclusive Cities and Regions/ Territoires inclusifs. Inclusion is understood in its multiple declinations that define the 10 general themes of this Biennial - Regional issues and regional disparity, Metropolitan or city proposals, Urban regeneration and Public Spaces, Migration and cultural inclusion, Cultural heritage, Resilience and adaptation, New economic approaches, IT and the use of artificial intelligence in planning, Ports, airports and other infrastructures, Underground space – and in additional ones proposed by the participants who further specify the general themes namely About Spatial Inclusivity, Urban regeneration and spatial justice with Nature-Based Solution, Inclusive public spaces for water cities facing climate change, Italian UNESCO Chairs vision and actions, A Transdisciplinary Approach to Placemaking and Inclusivity: COST Action Dynamics of Placemaking, Inclusive city Ecosystems, Youthbanism for a New Generation of Urbanists, Fragile geographies. Visions, projects and studies to mitigate and adapt to environmental and anthropogenic risk, Green Oasis for the 15 minutes city model, Making/unmaking urban circular economies with 'otherness', Public space for inclusive cities: the Biennial of Public Space, Universal accessibility and university education, the knowledge network, Findings and Evidences from the PNRR project RETURN, and River Contracts as voluntary and negotiated planning tools.

The works presented by administrators, professionals, academics and researchers who responded to the call concern projects, policies and research that have international interest and, at the same time, attention to the local, all at different scales.

It is possible, from this vastness of topics, to understand the broad discussion that resulted, outlining new interested subjects and involved actors, as well as new possible intersections of themes.

The theme of inclusion is in fact recalled in all the United Nation 17 Sustainable Goals, as well as in the principles of the New Urban Agenda adopted in 2016 during the III Un-Habitat Conference in Quito to underline the need for a holistic vision of this concept.

Among these, the principle 37. "We commit ourselves to promoting safe, inclusive, accessible, green and quality public spaces, including streets, sidewalks and cycling lanes, squares, waterfront areas, gardens and parks, that are multifunctional areas for social interaction and inclusion, human health and well-being, economic exchange and cultural expression and dialogue among a wide diversity of people and cultures, and that are designed and managed to ensure human development and build peaceful, inclusive and participatory societies, as well as to promote living together, connectivity and social inclusion"; and the principle 40. "We commit ourselves to embracing diversity in cities and human settlements, to strengthening social cohesion, intercultural dialogue and understanding, tolerance, mutual respect, gender equality, innovation, entrepreneurship, inclusion, identity and safety, and the dignity of all people, as well as to fostering liveability and a vibrant urban economy. We also commit ourselves to taking steps to ensure that our local institutions promote pluralism and peaceful coexistence within increasingly heterogeneous and multicultural societies".

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In this sense, inclusion must be understood as a set of actions aimed not only at ensuring that each place and/or person is considered adequately within societies and territories, but also at modifying any prejudices that could - in some way - discriminate against places and /or people compared to others. Accordingly, the actions - in their broadest sense - must be both material and immaterial; any policy, if is not accompanied by a participation process within all the involved - even potentially - subjects will not have lasting effects over time.

Accessibility and the elimination of architectural barriers, for example, will be able to guarantee that people with disabilities can enter in a place but not that they wholly feel comfortable and accepted in it if, for example, in addition to being able to access that space, no recreational activities are available, that they can access and make them all feel truly included.

Likewise, urban planning projects aimed at making geographically internal places more inclusive in terms of physical connections will not be able to have the expected results if this is not preceded by actions aimed at creating a greater attachment of people to those places in terms of memory and proximity. traditions.

And this attitude will also have to refer to physical infrastructures and - even more - to the more innovative virtual ones - such as the artificial intelligence - which will increasingly have to support people with different abilities in an equity perspective.

Finally, I return to those who consult this catalogue the wealth of contents expressed in the 14th edition of the Biennale to use, share, and rework them, each for their own interests.

Introductions
The policies of inclusion and the advocacy of urban civilization

*Michele Talia**

The European city has been a great incubator of human history for many centuries. It is still the driving center of economic, social and cultural development, but after playing a fundamental role in socialization, it now seems to have lost its ability to foster aggregation and social inclusion.
This withdrawal from exercising a fundamental role in developing the capacity to adapt to social change and the new challenges of contemporary society occurs paradoxically at the very time when the urban condition tends to constitute the dominant character of our continent. In the European Union, more than two-thirds of the population now lives in urban areas, and this corresponds to a concentration of 85 percent of GDP and about 80 percent of energy consumption.

Since social networks have a significant impact on the formation of the identity of local communities, the crisis of integration and social inclusion processes risks translating at the same time into a profound alteration of identity processes.

As social networks have a significant impact on individual and collective identity, the crisis of social integration and inclusion processes is likely to simultaneously result in a profound alteration of self-representation patterns.

The main crisis spots are caused by the deterioration of relations between the urban center and the periphery, where there is growing social polarization, driven by de-industrialization and increasingly extensive globalization processes. Here we are witnessing the emptying of entire urban suburbs of productive activities and urban provisions that could have played an essential role in fostering improved urban quality and greater social cohesion.

The main crisis spots are caused by the de terioration of relations between urban center and periphery, where there is growing social polarization, driven by de-industrialization and increasingly extensive globalization processes.

In particular, we are witnessing the desertification of entire urban districts, whose productive activities and urbanistic endowments could have played an essential role in fostering improved urban quality and increased social cohesion.

Among the dynamics between the center and the suburbs that the post-industrial crisis has accelerated is a growing impetus to "gentrification," namely the "colonization" of degraded urban areas by economically affluent individuals or households. The cost of such processes is the expulsion of residents, the geometric increase in property values, and the radical change in its social composition.

Therefore, globalization is creating a new emerging class of managers, politicians, scientists, artists, entertainment and sports people who represent a cosmopolitan bourgeoisie that moves easily and marks global cities with its presence. At the same time, it is still cities that absorb most of the impact of emigration from the global South.

Spatial mobility thus concerns the extremes of social classes: on the one hand, the globalized bourgeoisie, on the other hand, people fleeing poverty and wars and settling in the old, pre-existing urban fabric, often affected by deindustrialization and loss of social cohesion.

Although it has happened that public policies have attempted to counter the processes of marginalization, not only the current polarization of economic welfare, but also a crisis in the welfare system that appears beyond repair and a European Union increasingly alarmed by the entry of massive flows of migrants cause us to look with concern at the future of the city on our continent.

* President of the National Institute of Town Planning

For all these reasons, the main topics proposed for discussion by 14th Biennial of European Cities and Town Planners urge us to imagine a different tomorrow, in which the widespread tendency towards the regeneration of the public city can contribute to a paradigm shift, capable of guaranteeing social integration and putting the best energies of society back into motion. To get out of the crisis, we need to change the idea of the city, reconstructing the public city and urban welfare, and identifying some possible paths that could be adopted to make urban society more fair and cohesive.

Starting from an initial consideration of the values and meanings to underpin the redevelopment and regeneration strategies, the policy framework can be articulated to encompass the main welfare measures experienced in Europe today:
a) pursuit of the fundamental objectives of safety and urban well-being;
b) containment of land consumption;
c) implementation of actions to combat climate change;
d) enhancement of sustainable mobility;
e) improvement of the conditions of accessibility to the public city;
f) development of policies aimed at fostering social inclusion;
g) involvement of residents in the identification of urban policy targets and in decision-making processes.

In welcoming the participants to the Biennial in Naples, I believe it is appropriate to underline the importance of a comparison and exchange of good practices that can be valuable not only to promote the sharing of knowledge and experiences, but also to lay the foundations of new European partnerships and policies aimed at strengthening social inclusion and living with immigration.

Inclusion dilemmas

*Francesco Domenico Moccia**

Inclusion topic is a central aim of European Union and its member state territorial policy and, in the meantime, one of the more controverse concept because it lies in a conflicting arena of opposite economic political theory. Neoliberals consider inclusion as a by-product of growth reached with the so-called spill down effect. Only if a country increases wealth, can provide to the wellness of all its citizens and reduce economic and social exclusion and include stigmatized spaces where they live. Criticism on this process highlight polarization effects of economic development. An ESPON study in 2007 explains the lack of correlation between polycentrism and growth in Europe with the privilege of central European regions (blue banana) and monocentric capital metropoles in capturing globalization benefits. So, in contrast with market rationality, welfare state should take responsibility in caring of reclused people and space. In Italy, the passage from the large coalition of Draghi to the Meloni right wing governments follows this oscillation of focus on support to low-income families (citizen income) in contrast with deregulation for firms, targeted to GDP increase.

All statements about sustainable development – politic is full of oxymorons – requests equilibrium among social, economic, and environmental field. However, planners knows that real programs hardly can pursue that equilibrium: on the contrary, may generate conflicts, sometimes as unexpected effect. Fiscal incentives to homeowners to better energetic and ecological house performances eventually privileged the wealthier families increasing exclusion. Similarly, regeneration of neighbourhoods driven by private developers where real estate value increase may assure a resilient and sustainable space just to affluent families, raising divide and reach in the city space. Competitive mode of financial resources allocation met some criticism on the bases of privilege of the stronger public and private applicants in winning the grants. Poor people as well as small municipalities lacking technical expertise and personnel are disadvantaged while the much needed of help. So, while competition give more probability in the efficient improvement of interventions, it feeds the better and let lagging the worst places. To favour the last a planning mode is preferred so that territorial disequilibrium is analysed and, with a combined process bottom-up and top-down, strategies are elaborated helping local resources to emerge with the guidance of professionals, technical assistance of upper tears government organizations. An exemplar of this methodology is the National Strategy of Inner Areas. An apparent paradox of inclusion policy is the place-based approach because it theorizes that inclusion is obtained through development of differences. Its acceptance means a conception of inclusion made of differences, linked by complementarity and cooperation instead of uniformity. While the economic reason of integrated territorial development is based on differences of local resource like territorial capital, knowledge, and assets to develop with tailored solutions in different types of territories, the result is competitiveness for places, a long-term and unique function in the urban and regional network.

Territorial Agenda 2030 advocate for two territorial priorities for Europa: just and green. Two conflicting ends are at work: European territory is pushed to ecological and digital transition, now in a more felt global competition, on one end, and to spatial cohesion on the other, trying to conceal two opposites. Weakness of cohesion policy is evident in the increasing opposition to European Commission directives, linked to populism politic spread in European counties, and culminating in Brexit. A growing number of studies are analysing personal and contextual factors related to this criticism and mapping a geography of discontent. In places that have been left behind, where there is a long-term economic and industrial decline, brain drain, either the more developed or often dynamic large cities or simply the least developed regions, anti-EU voting is on the rise. It seems that the more recent exclusion harder it is felt, also behind classical dualisms centre/periphery, rural/city, metropolis/town. This research speaks about difficulties of building a European polity because that is at stake in complex dynamics of entrance and

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exit, acceptance, and refusal of the Union as expression of approval or disapproval of its policy: territorial policy included. Inclusion comes from the Latin *includere* composed of *in-* inside and *claudere* close, and planners are authorized to extend the some meaning to space where segregated neighbourhoods and put-apart territories suffering exclusion. Although a strategic objective for nowadays Europe Union, inclusion is not a final achievement, rather a starting point. Pulling inside an open society builder of millenary complex city and regions cannot avoid conflict calling for a planner's main action of problem solver and dialogue facilitator. This task made more difficult by redundancy of communication of our time where – says Habermas – even identification of public deliberative issues object of civil society sphere conversation is at stake and rational discourse for comprehension among diversities is hard. It implies that one time we are gathered we should comprehend each other.

From Migration & Inclusion to Inclusive cities and Regions

*Giuseppe De Luca**

Inclusive cities and regions are the keywords around which the *14th Biennale of European Towns and Town Planners revolves,* organised by the *European Council of Spatial Planners-Conseil Européen des Urbanistes* (ETCP-CEU), with *Istituto Nazionale di Urbanistica* (INU), as the main co-organiser, and along with *Associazione Nazionale degli Urbanisti Italiani* (ASSURB).
The discussion about Inclusion as the theme for the Biennale started several years ago in the ECTP-CEU Working Groups. It was proposed in the introductory report of 6th November 2018. Since then, the proposal has been progressively improved, with a time schedule that needed to be updated several times. The debate was linked on the one hand to migrations generated by difficult geopolitical and economic conditions, and on the other to the effects of extreme climate events and the outcomes that these were beginning to manifest on European territory, also in terms of public awareness and political perception. The Covid-19 pandemic directs the debate around the fragile conditions of cities and territories, leading to the *Re-Start Europe Manifesto Declaration* (in 2020) for an inclusive and just post-covid future for all communities. Important document, organised into 24 points, the most important of which is No. 6, titled as follows: "The shared long-term European goal for more inclusive, just and sustainable development has been put at risk".

However, the time to implement this was short, very short. Just in February 2022, this discussion crossed paths with the brutal aggression of the Russian armed forces against Ukraine. A large European country is being exposed in nearly every region to a situation that was absent from the European continent since the end of the second world war. The scenario changes significantly and with it a new vision based on inclusiveness begins to take shape in the main places of contemporaneity: cities and regions.

The change in perspective is important, because it moves from the study of a phenomenon to the study of the space within which it takes shape. It is related to the role that cities and regions, and thus their instruments of government but also forms of governance, can play in responding to the new contemporaneity.

Cities play a crucial role in the organisation of human society, providing opportunities for work, education, entertainment and cultural exchange. They are centres of innovation, creativity and economic development, but can also face challenges such as pollution, traffic congestion, limited access to housing and resources, as well as social inequalities. The regions also play a role, not in the sense of institutional areas, but rather in the sense of large areas. While cities tend to focus on urban life and the management of challenges specific to urban areas, regions have a broader and more integrated perspective that includes both urban and rural areas within their territory. Both play crucial roles in people's lives and the organisation of society, albeit in slightly different ways.

Inclusivity has been divided into ten sub-themes, yet, from reading the contributions received, the keywords that intersect them all are, in my view, seven and are held together by a single practical approach: that of cooperative governance.

Diversity and Respect: Inclusive cities celebrate diversity and recognize the value of different cultures, languages, and perspectives. They promote respect and understanding among residents, fostering a sense of belonging for all.

Equitable Access: prioritise equal access to essential services such as healthcare, education, transportation, housing, and employment. They work to eliminate barriers that prevent marginalised groups from fully participating in society.

Social Inclusion: promote social inclusion by addressing issues of discrimination, poverty, and inequality. They implement policies and programmes that empower marginalised communities and promote social justice.

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Accessibility: ensure that public spaces, buildings, transportation systems, and information are accessible to people of all ages and abilities, including those with disabilities.

Community Engagement: for actively engage residents in decision-making processes and encourage participation from diverse voices. They foster a sense of community ownership and collaboration in shaping the city's future.

Affordability: address affordability challenges by implementing policies to ensure that housing, transportation, and other essential services are affordable for residents of all income levels.

Safety and Well-being: prioritise the safety and well-being of all residents, working to create environments where everyone feels secure and protected from violence, discrimination, and other forms of harm.

Overall, inclusive cities and regions recognise that diversity is a strength and are committed to building communities where everyone has the opportunity to thrive and contribute to the collective prosperity. Co-operative governance consists of the mechanisms, processes, and structures through which decisions are made and resources are allocated in cities, metropolitan areas, and broader regions. It involves the coordination of various actors, including government agencies, local authorities, community organizations, businesses, and residents, to address the challenges and opportunities facing urban and regional areas.

This is the main result that emerges from the studies and research presented in this Biennale.

Keynote speeches
Inclusivity in an adaptive planning system

*Janet Askew**

The power of the citizen is confronting all planners across Europe. Inclusivity is a critical concern of spatial planners, and in the UK, public participation in policy and decision-making has been enshrined in law since 1968. Planners, aided by communities and civil society, have been experimenting with how best to achieve inclusive physical, social, and economic environments for all parts of society. In 2024, we have a better understanding of inclusivity.

Has the adaptive, indicative planning system of the UK hindered or helped with the ambitions to involve citizens in decision-making? Does this system allow for a more inclusive society? What has changed? How has it evolved since 1968?

Many communities found a voice in the 1960s, when protests were happening all over Europe. In the UK, people were calling for higher levels of involvement in the planning of their areas. In the 1970s, there were reversals of policies which aimed to demolish communities and their homes. In London, a famous community protest against the demolition of the historic Covent Garden won the battle to retain and regenerate the old market and Opera House, now one of the most successful tourist honeypots.

The early days concentrated on community and individual involvement in meetings, small focus groups, role play, leaflets and advertisements seeking comments on planning applications and policies. There were some exemplary community projects where local people put forward their ideas for a neighbourhood, and radical planners who invented different ways of engaging the public. How to do this has dominated the literature for many years, and UK practice has ranged from radical ideas of citizen control to mere symbolic reassurance or meaningless consultation. It is recognised that methods of consultation and participation do not necessarily reach so called 'hard to reach' groups, people who would not normally get involved in local or national planning issues. Who contributes? Who has the loudest voice? Who hears? Who listens? What changes?

* ECTP-CEU Past-President

Planners have engaged with these issues for over 50 years, and in that time, citizen involvement has evolved. It is arguably more participatory now than before, partly because the UK adaptive planning system makes room for a more inclusive approach.

The planning system of the UK requires public involvement at every stage, depending heavily on negotiation through all stages. In policy-making, there is a hierarchy of plans from national to local to neighbourhood, and at each level there are time limits on inviting public and stakeholder comment – objection or support. The main arena for large-scale public participation is the local plan - the statutory development plan, to which land holders, developers, civil groups, public bodies, utilities, and the public contribute. Neighbourhood planning directly involves communities who participate in the allocation of land in their district, but it must conform with higher plans. There is considerable interest and participation when permission is sought to develop or change the use of land or buildings, and it is in this stage that the public and other stakeholders can have real influence. There is usually extensive negotiation over the details of design plus any value capture payments.

The adaptive system is inclusive because decision-making on how to use the land or building is discretionary – the final decision being made only at the point of granting planning permission for a development. There are no rigid, legally binding plans, plus the permission granted in perpetuity – it only lasts for 5 years - after which it lapses.

In the 21st century, methods of involving stakeholders have been honed. There is a widening recognition that stakeholders in planning involve many different interests with unique characteristics, which planners need to accommodate. Diversity and inclusivity are higher on the agenda, targeted at certain hard-to-reach groups. Civil society, especially environmental groups are amongst the loudest, along with other interest groups who lobby hard for their interests, including developers, who nevertheless, accept that public consultation is embedded in the system.

Women have long argued for the city to be more suited to their needs. Glasgow has just voted to become the first feminist city, concentrating on public spaces, safety, lighting, public toilets, access. Disability is recognised as a necessity for planning differently. Belfast has a disability strategy for the city. How do we plan for the aged? Age-friendly places demonstrate adaptation for older people. In Taiwan, whole towns are designated as age-friendly. The RTPI publishes guidance on dementia-friendly environments, along with recognition of people with neurological conditions, such as autism, showing how the city needs to cater for their complex needs. The United Nations campaigns for better environments for children. Cardiff has recently become the first UK city to be a UNICEF child-friendly city. LGBQT groups seek their own spaces, and symbolic road crossings are seen in cities as far apart as Vancouver in Canada and Derry in Northern Ireland.

In conclusion, the indicative or adaptive system of the UK offers more opportunities to be inclusive than more rigid imperative systems might do. Planning in the UK, known for its discretion and negotiation at every stage of policy and decision-making, has significantly adapted its approach towards a more inclusive approach in the 21st century.

ECTP-CEU's vision on inclusive cities and regions – territoires inclusifs

*Markus Hedorfer**

Before entering more properly into the theme of this year's Biennale's and how it was conceived and brought forward by our organisation, I would like to spend a few words about the organisation itself.

The European Council of Spatial Planners — ECTP-CEU, in French Conseil européen des urbanistes — is an umbrella organisation that brings together the professional planners' associations and institutes in Europe. Currently, we have managed to recruit members from about 30 countries. It has been founded in 1985 as the successor organisation of the town planners' liaison committee at the European Communities. Later it has opened its door to all 46 countries of the Council of Europe.

Our goal is to promote spatial planning as a distinct profession. For many years, this profession has been encroached upon by other specialists convinced of their competence in this field. The truth is that approaching spatial planning scientifically makes it a separate profession. Moreover it must become a *robust* profession, where 'robust' means that it is clearly identifiable, clearly recognised by society and with clearly defined competences. Therefore, it must have, at least in Europe, a continent-wide common, full-grade initial education framework with common academic and professional titles, cross-border recognition and a common CPD framework for continuous professional development.

Being a member of such an association as ours has the advantage of being able to share ideas and knowledge about our mistakes and learn from each other. To achieve this, we promote a professional approach to spatial planning. Part of this involves fostering mutual understanding among urban planners from different European countries. Despite the strong differences between planning systems in Europe, our workshops and conferences have shown very well how similar the problems are that our colleagues must tackle every day in their professional work. Also, the solutions that our professional knowledge and expertise suggest are very similar in all our countries. Translation from these possible solutions into planning regulations and norms, which are at the centre of many national and regional planning systems, is a challenge we are facing in ECTP-CEU's formal and informal meetings. Another important aspect in our association's work is communicating to other people, such as decision-makers, stakeholders, citizens and, at the highest level, lawmakers, the importance of a correct approach to spatial planning, with professionally skilled colleagues and interdisciplinary planning process teams. We are making slow progress and hope for more successes in this aspect in the near future. We also believe that young students and young professionals are an important part needed to achieve this goal. So in our vision, we want young planners to collaborate with the European Council of Spatial Planners. An opportunity to do this is through our annual Young Planners' Workshop where students, junior and senior planners can meet and exchange their opinions and experience.

The ECTP-CEU and its members are actively getting involved in these issues. We have published case studies of good practice for post-Covid recovery. Exchanging ideas and comparing good and bad practice within an umbrella non-governmental organisation offers security to countries who are facing challenging situations — politically and environmentally. Planners in Ukraine are talking to other European countries, including the ECTP-CEU, about the post-war re-construction of their country, and these links will surely be of benefit. Conferences held by ECTP-CEU offer support to members on issues as diverse as social justice, migration, climate justice, marine spatial planning, and planning for those areas on the edge of Europe. In 2022, young planners addressed how to regenerate the mass housing neighbourhoods of our recent past. In 2023, the first conference was held about small island planning, based in Malta where the issues of migration, density, over-development, heritage were high on the agenda; and in complete contrast, our second conference for members and young planners was in Gdańsk, the theme being 'transforming cities'.

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Inclusion, inclusivity or inclusiveness is present in all these considerations. I think it is correct to say that the European and global planners' professional community is dealing with these aspects for many years now, and that, like in other aspects, decision-makers and lawmakers discover them much later than we do despite our efforts. Recently, we have tried to define — without any claim to completeness — six different kinds of inclusion.

Social inclusion, which is probably the most commonly perceived idea of inclusion, i.e., an inclusive process which involves all members of society in decision-making, regardless of race, social standing, age, ability, gender etc. at all levels of governance and for this to be incorporated into the laws and policies at the ap-propriate scale).

Spatial inclusion at different levels — neighbourhood, urban, metropolitan, regional, in which places are planned and designed to include everyone, to allow equal access to city spaces, public open space, housing, transport, affordable health, amenities and infrastructure.

Migratory inclusion to welcome and/or settle short-term, long-term or permanent new citizens, and to investigate case studies in which migrants have been successfully incorporated into the society that they join.

Cultural inclusion — planning for different ethnic communities and ensuring that the identity and heritage of a place is con-served with sensitivity.

Economic inclusion – planning for employment and commercial developments which reflect the changing economic landscape and the very different nature of work in the 21st century. How can planners ensure that all workers of whatever occupation have equal access to good working conditions, including the location of industry?

Finally, Inclusion to overcome conflict situations, such as natural vs. human landscape, heritage vs. contemporaneity, risk vs. resilience, linearity vs. circularity, permanent vs. temporary residents, port/airport vs. city/region.

Regulatory Inclusiveness and Territorial equipment

*Carolina Giaimo**

In Italy, the construction of a social welfare-system based not on the resolution of emergencies but on promoting people's wellbeing and skills as an engine of development and employment and a factor of social inclusion, has distant roots, dating back to the end of the 19th century. However, these notes make specific reference to the recent phase, following the turn of the 2000s.

About welfare and Essential Levels of Services

Among the innovative contents envisaged by the reform of the Italian Constitution in 2001, there are the Essential Levels of Services (ELS) that are connected to civil and social rights and must be guaranteed throughout the national territory. The constitutional reform had assigned the State the task of defining them, as a matter of exclusive competence. It is well known that this content has remained unimplemented for almost 20 years.

It was only in 2019 that the Minister - of that time - for Regional Affairs and Autonomies resumed this topic by drafting a bill on the implementation of differentiated regionalism to which we must give credit for having conditioned access to the differentiated legislative autonomy of the Italian regions to 3 questions: the identification of the ELS; the determination of standard-costs and requirements; the regulation of the equalisation-fund for regions with tax revenues that are unable to ensure the ELS in practice.

In the current legislature, it has once again become a topical issue brought to the political scene's-attention because it is connected to the definition of the differentiated legislative autonomy of the regions: among the transferable subjects there is territorial government. The allocation of functions over which autonomy is to be exercised requires establishing which services and benefits are to be offered throughout the country to guarantee the same social and civil rights of citizens throughout the national territory. This means that if the State defines an ELS, then it must also guarantee municipalities, provinces, metropolitan cities and regions sufficient resources to provide them.

The ELS are based on a Technical Report wich identifies also the 'territorial government' within which are identified, among others: the National Building Code (Dpr 380/2001); the urban planning law and the sectorial laws that have an impact on spatial planning; and also the Decree 1444/1968 - on urban standards.

Based on this Report, in January 2024, the Senate has approved a draft bill proposed by the government concerning *Dispositions for the implementation of the differentiated autonomy of ordinary statute regions*: a measure that is now being examined by the Chamber of Deputies. So if, on the one hand, the draft bill defines the general principles for the attribution to ordinary statute regions of further particular forms and conditions of autonomy, specifying that the process must take place 'in respect of national unity and to remove discrimination and disparities in access to essential services on the territory', on the other hand, it says that the attribution of further functions, relating to matters connected with civil and social rights will be subject to the determination of the ELS including those related to the fundamental functions of local authorities. The fact that this draft bill attributes the nature of 'essential services' to both 'services concerning civil and social rights' and 'fundamental functions of local authorities', generates a series of possible dangerous misunderstandings in the application of these provisions because the ELS, instead of being transformed into resources destined for the implementation of interventions to contrast urban and territorial gaps and disparities to the benefit of families and activities, it will be aimed at the distribution of resources to cover the costs of the functions exercised by the authorities.

The INU proposal

The importance of recognising in the ELS those minimum endowments that in Italy we call 'urban standards' since 1968, is also recognised by the INU and is an important content of the proposal for a law of principles for the territorial government, relaunched with the Bologna Congress in 2022, which has activated a sort of 'work-site' for the finalisation of a proposal.

What connections there may be between ELS and a fundamental activity of territorial government that, like planning, has as its central goal the public and general interest, starting with the relations with the regulation of services defined by urban planning standards?

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Writing the law of principles on territorial government and planning is the correct regulatory context to affirm that the minimum endowment of urban standards responds to the recognition of a minimum essential level.

It is well known that DM 1444/68 still defines minimum quantities of public spaces and equipment to be allocated for the entire national territory for parks, playground and sport, education, parking and facilities of common interest. It means that the urban standards are, therefore, a spatial prerequisite for the endowment of public space and the provision of public services. In that case, it is however a necessary but not sufficient condition for the realisation (and the proper functioning) of quality urban environments and for offering citizens the guarantee of the right to equal social dignity envisaged by the Constitution. The INU proposal i) confirms, after more than fifty years of validity of Decree 1444, the symbolic, political, technical and cultural value of this norm as a milestone for spatial planning; ii) revisits and updates the matter of urban standards; c) confirm the need to pursue social equity and the guarantee of the provision of spaces for the supply of public services throughout the national territory via minimum and mandatory urban and territorial endowments, which find their primary basis in the exclusive competence of the State reguarding the determination of the ELS.

The quantity of public land regulated in municipal plans constitutes, therefore, 'only' the vital premise for the concrete provision of services and the implementation of public policies. The endowment of a quantitative reserve of public areas represents the fundamental minimum basic guarantee that is placed at the beginning of a complex process aimed at satisfying collective and social needs but does not absolve the public actor from its responsibility of formulating and implementing planning and management policies.

Regional strategies for territorial cohesion (OP 5. Europe closer to citizens)

*Bruno Discepolo**

The central theme of the 14th Biennale of European Towns and Town Planners, focused on 'Inclusive Cities and Regions,' plays a strategic role in the urban and regional planning of the Campania Region.

It is indeed becoming increasingly urgent to adapt cities to meet the diverse needs of their communities, designing urban spaces that promote social inclusion, economic equality, and environmental sustainability. This contributes to the formation of communities that must be not only resilient but also cohesive and equitable.

The conference will address several key issues currently prominent in public debate, including how urban planning can be used to counter social exclusion and marginalization. Discussions will focus on integrating vulnerable populations, including migrants, the elderly, and people with disabilities, into the social context of settings. The role of technology and innovative urban design in improving accessibility and participation in city life will also be strategic.

We must not overlook the impact of global challenges such as climate change and economic disparities on urban inclusivity. During these days, experts will present the best practices and case studies of cities and regions from around the world that have successfully implemented inclusive policies and projects.

In the coming days, the contributions of experts and scholars may provide ideas and tools to policymakers and stakeholders on how to design truly inclusive cities and regions, ensuring that all inhabitants, regardless of their background or roles, can thrive.

Very briefly, I would like to illustrate how the Campania Region is addressing the issue of inclusivity, specifically referring to the activities being developed in recent years by the Assessorato al Governo del Territorio, also in the context of the programming of European Union funds for the 2021-2027 cycle, concerning Policy Objective 5, which falls under my responsibilities.

The socio-demographic and economic conditions in Campania are particularly critical. Research conducted by CRESME on behalf of the Region in 2021 presents an alarming vision of the future demographic scenarios for Campania, suggesting that without significant changes, the region risks losing essential elements for its revitalization, such as a solid production and employment base, skilled human resources, a robust internal market, and sufficient local tax revenues.

Projections indicate a loss of over half a million inhabitants over the next twenty years, caused by both low birth rates and migration. The employment situation is equally concerning, with an employment rate of only 44.5% in 2020, well below the European target of 75.0%. Additionally, Campania's per capita PIL in 2019 was only 44.0% of that of Trentino, and its total PIL was only 27.0% of that of Lombardy.

Moreover, in Campania, there are situations of severe settlement and socio-economic gaps, represented by the contrast between the coastal and lowland areas, which are denser in population, activities, and infrastructure, and the inland areas, which are mostly characterized by conditions of depopulation and strong marginality. Three-quarters of the regional population live in the Naples-Caserta-Salerno conurbation, and it is here that housing needs appear to be particularly problematic.

In this general framework, it is clear that the demands that have emerged at the European and national levels to define integrated territorial strategies that can effectively utilize available resources must be clearly defined and delineated as much as possible in accordance with territorial planning tools.

In the face of these prospects, it is essential to adopt a new culture of sustainable development and innovative models to guide Campania through ecological and digital transitions, enhancing local resources while respecting cultural identity and promoting welfare and social inclusion policies. These goals are central to the regional strategic plans for 2021-2027, as outlined in Campania's Regional Strategic Guidance Document (DRIS).

Over the past decades, the Campania Region has initiated a radical transformation in its approach to planning interventions on its territory, moving towards an integrated territorial planning strategy that focuses on a pluralistic vision of Campania, consisting of urban systems featuring medium-sized cities and territorial systems with strong naturalistic, cultural, and industrial characteristics.

* Town Planning Councillor, Campania Region

The Campania Region is currently engaged in the redefinition of land-government strategies, which, for some time now, have no longer been characterized as strategies of expansion but of urban regeneration. This shift aims primarily to rationalize housing needs within already urbanized areas while protecting green, agricultural, and natural spaces.

Regional planning under Policy Objective 5, "A Europe Closer to Citizens," cannot overlook a careful evaluation of phenomena occurring in the territory, notably the aging population, the loss of young people, and the extensive depopulation of entire areas.

The main activities of Assessorato al Governo del Territorio can be summarized into four macro-sectors:

- Updating urban planning regulations;
- Establishing compatibility frameworks for territorial enhancement actions through the development of a new Regional Landscape Plan;
- Integrating financial programming for the 2021-2027 EU funds cycle with urban and territorial planning through the new Territorial Agenda;
- Promoting social inclusion strategies through the Sustainable Living program, which supports regeneration, seismic safety improvements, and energy efficiency of the significant existing public residential building stock of the Region and Municipalities, and the production of new segments of public and social housing.

Twenty years after the approval of the regional urban planning law, it became necessary to intervene to define more effective legal and procedural bases to address the current challenges facing cities and territories.

A comprehensive amendment of the current law will soon be discussed in the Regional Council to ensure the necessary renewal of the legislative framework by introducing themes of urban and territorial regeneration, containment of land consumption, densification of already urbanized areas, upgrading urban facilities, improving seismic and hydrogeological safety, and energy efficiency of buildings.

The Regional Landscape Plan (PPR) results from a complex process of updating knowledge for the interpretation of Campania's landscape. The preliminary plan, approved in 2019, contains over 70 themes and 2,000 GIS-format maps.

The Plan is invaluable to define strategies to protect and enhance the territory, taking into account the social, demographic, economic, and cultural evolution of local communities, identifying and enhancing the environmental and cultural identity to be passed on to future generations.

With an innovative approach, it tackles today's planning challenges, such as soil consumption, climate change, territorial fragility, and regeneration, through an integrated action system aimed at urban and territorial requalification. This includes the reuse of degraded spaces, the reweaving of fragmented urban fabrics, the reconstruction of new landscapes, and the rational use of peri-urban spaces. This contributes to the definition of a Regional Territorial Agenda that focuses not only on the development of urban systems, but on the entire regional territory.

In the process of developing the Landscape Plan, local communities, as custodians of the landscape's identity values, play a strategic role in fine-tuning the enhancement strategies that stem from the landscape quality objectives assigned by the Plan to the territorial resources. In the coming weeks, an intense program will be launched, planning twenty meetings across various territories to start workshops on participatory planning.

In this scenario, the Region's strategy for the new cycle of programming European union resources aims to promote a new approach to sustainable and integrated development and urban regeneration, structured into:

- Twenty-three medium-sized urban areas including the four provincial capitals and major cities of the Region;
- broad territorial systems that coincide with the areas of the Masterplan-Integrated Development Programs, a new concept tool that, in the junction between the forecasts of landscape, territorial, and urban planning and the programming of economic and financial resources, proposes an innovative way of valorizing territorial resources;
- interior areas where the main goal is to counteract depopulation and demographic decline, also through the adaptation of services.

The fourth line of action is the promotion of the Plan for Sustainable Living, urban regeneration, and social inclusion, placing at the center of regional policies those for the right to housing, the requalification of suburbs, safety improvements, and energy efficiency of the building stock, and the regeneration of territories.

We are carrying out significant work with the Municipality of Naples for many peripheral neighborhoods in the city, focusing on numerous public housing districts.

The strategy aims to integrate multiple forms of intervention and resources to:
- increase the number and variety of public and Social Housing units;
- enhance the value of the existing urban building stock also through seismic safety improvements and energy efficiency;
- promote pilot urban regeneration initiatives;
- recover disused urban and productive areas.

Since two 2020, over 120 projects have been funded across the regional territory with total funding of approximately 600 million euros and a goal to invest a total of 1 billion euros by 2030.

In conclusion, I would like to highlight the crucial importance of this conference as a forum for sharing ideas, experiences, and strategies to build a more inclusive and sustainable future for our cities and regions. We face significant challenges, but also unique opportunities to reinvent our approach to urban and territorial development, as well as to redefine the identity and professionalism of technicians and professionals involved in various capacities in design, planning, and administrative processes. Continuous collaboration and dialogue among all participants are essential for translating shared objectives into concrete actions that improve the lives of all citizens. Thank you all for your attention, and I wish each of us a fruitful exchange of ideas and good work in the coming days.

Social housing and benefits in Austria: an approach in creating inclusive and just settlements

*Gerhard Vittinghoff MRTPI**

Austrian housing policy has maintained many features of the post-war housing policy scheme, especially the growing importance of limited-profit housing associations and the focus on supply-side subsidies are mayor tenants of this approach. The affordability has been promoted by reducing the costs of housing through low interest public loans and grants to ensure appropriate supply outcomes and relies far less on demand assistance than other systems.

The universalistic approach towards social housing avoids marginalization and stigmatization of the social housing segment and its tenants. Regulation plays a strong and prescriptive role in the Austrian model.

Specific land use instruments are in place and these include zoning categories which define well suited areas predominantly dedicated to subsidised Housing. These special areas are well situated within the urban framework. In identifying these areas, uniform and transparent allocation criteria allow for a good social mix in social housing estates. At the same time, affordable rents boost purchasing power. The large share of social housing contributes towards more affordable prices for a major proportion of the entire housing market.

Moreover, the sustained efforts towards "gentle urban renewal", too, play a role towards keeping housing in general affordable and also safeguard employment in the construction industry. This reflects a long tradition in Vienna and is likewise strongly supported by the population – a historic achievement that must be preserved for future generations.

Promoting a social mix in neighborhoods and preventing ghettoization has always been a priority of urban governance. In Vienna, municipal housing and affordable housing conducted by Limited Profit Housing Associations (LPHA) are scattered across the city. Compared to other cities the segregation in Vienna has remained relatively low. The local government sees the long-standing tradition of social housing construction as safeguards of good social mix. Social housing makes up 42% of the total housing stock and about 60% of all Vienna households live in social housing apartments, thus the city government remains in control of a large part of housing in the city. There are income limits to determine who can apply for social housing.

Promoting diversity is the major focus and it aims to bring together heterogeneity of various forms of living, working and various concepts of life, understandings of gender roles, values as well as economic, religious, language and cultural backgrounds. The focus is on co-creation of strategies at the local level and bringing various stakeholders into decision-making process such as public institutions, private enterprises, property owners, investors, civil society and individual residents.

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HOUSING CRISIS – after 1980's settlements reconversion and 2024 simplification

João Teixeira, Portugal

There are two periods of housing crisis in Portugal, that suggest solutions for the future, tackling immediate needs of affordable housing in Portugal:

- The illegal settlements constructed in the 1960's and 1970's and their reconversion in the 1980, based on *Vale de Milhaços* neighborhood reconversion.
- the Socialist Government solution, adopted in the beginning of 2024: simplification of processes, along with social housing construction.

Vale de Milhaços housing development

Vale de Milhaços is located 22 km *Península de Setúbal* (south of Lisbon). In the 1960´s several big enterprises were inaugurated in south of Lisbon, such as Nacional Steel Industry in 1961 and Margueira Shipyard in 1967, creating thousands of new jobs. Also, the Bridge, connecting Lisbon to the South bank, was built in 1966. The accessibility from *Vale de Milhaços* to Lisbon was reduced from 2 hours to 30 minutes. The demand for houses and land for construction was much bigger than supply. Illegal settlements appeared, and later, illegal constructions. Government couldn't control the situation.

Vale de Milhaços was an illegal allotment with plots around 300 sqm to 2000 sqm, along informal streets, without infrastructures or social equipment's. The reconversion of *Vale de Milhaços* illegal settlement and construction was based in the following principles:

- A General Plan developed involving new landowners in public meetings, later approved by the Municipality.
- A local technical team was created, paid by the Municipality, to implement the Plan, to help house owners to adapt existing houses according to legislation, to inform the local population about the Plan, and to control construction.
- The larger plots were destined for public equipment's.
- The owners of small lots had to give up 10% of the land area, when possible, for social equipment's and infrastructures.
- The costs of Infrastructures (street paving, water, sewage, electricity, and telephone infrastructures) were paid by the new owners of plots and houses, with installments during five years.
- Infrastructures projects and related works were coordinated by the technical team.
- The illegal promotor had to give away all the land owned and pay a fine for the illegal allotment.

Currently the accessibility has been increased with bus network and the new railway. The nearest station is located 700 meters from *Vale de Milhaços*.

Reconversion and rehabilitation were a very successful operation. It is a 128 hectares neighborhood with 5000 homes, taking advantage of urban infrastructure, domestic waste collection service, public transport, and social facilities: a kindergarten, two public schools (primary and secondary), a private school, a sports center, an Eco Museum, green areas, an urban park, as well as stores for everyday supplies. A house located in *Vale de Milhaços* can be worth between €300.000 (€1.500/sqm), and €700.000 (€3.000/sqm). The vision, the reconversion plan and the coordination of team's work were carried out by Professor Costa Lobo, one of the founders of ECTP-CEU.

2020 housing crisis

To solve the 2020 housing crisis, the Portuguese Government took several decisions during 2023/24, namely a new generation of housing policies (NGHP), with the following objectives:

- Respond to families living in severe housing shortages.
- Guarantee access to housing for all those who have no access to the market.
- Create the conditions for rehabilitation to be the main form of intervention in building and urban development.
- Promote social and territorial inclusion, along with housing choice opportunities.

The main measures to achieve these objectives are:

- To simplify the approval process for construction projects.
- The investment of 3.090 million Euros to rehabilitate and built new homes at affordable costs, financed by the Recovery and Resilience Facility, RRF, corresponding to 26.000 homes.
- To exempt from housing taxes, until 2029, the owners who give up tourist accommodation in favor of urban rental.
- To reduce housing rental taxes at affordable costs.
- To reduce or release real estate capital gains on the sale of second homes or land, to repay a loan for own and permanent housing.

Now and in the future

Recent policy became very expensive and takes times to implement. It doesn't ensure population involvement, by side public minimum participation.

Complementarity between housing policy and new urbanization plans can be strong solution, adequate to present needs:

- Locally, several new municipal, or part municipal developments could ensure large and diversify offer of affordable housing, as claim often by general population.
- New urbanization plans of municipal initiative, producing plot at affordable price, give the possibility to families invest in their own home over several years mobilizes savings and reduces the State's expense on housing development.
- It also allows tailor made projects, able to evolve through time adequate to family needs, adopting different sustainable solutions (Light steel framing, Light wooden framing, among others).

When the nature of the intervention takes the form of self-construction, the intervention of a specialized team is essential during the urbanization plan, design, and construction.

New urbanization plans of municipal initiative, benefiting from lessons learned, appear as a solution to be largely explored in Portuguese reality.

Special Workshop

About Spatial Inclusivity.
A perspective from URBinLAB
Lisbon

Coordinator
Alessia Allegri

Intermittent City
Temporary uses and sharing practices to foster spatial inclusivity in urban spaces

*Alessia Allegri, Rita Ochoa**

Values of temporariness and sharing have become central in shaping our cities, driving significant urban transformations. Various innovative housing models like co-living, co-housing, and temporary accommodation, along with flexible working arrangements such as co-working and remote work, shared mobility options like bike-sharing and car-sharing, initiatives for shared resources such as collaborative consumption and urban agriculture, and digital platform-based services like Netflix and Spotify, exemplify some of these diverse urban dynamics enabling and empowering temporariness and sharing in urban spaces – termed *Intermittent Practices* (IP). IPs are the focus of the research project Intermittent City which explores spatial transformation processes triggered by practices and policies that enable and empower urban communities through temporary and sharing uses in urban spaces. In particular, the objective of this text is to delve into the hypothesis that IPs can function as catalysts for transformative actions encouraging an experimental approach to urban planning focused on fostering spatial inclusivity. This approach prioritizes several key principles, evidenced in the enumerated case studies:

Promoting Diverse Programming and Social Mixing: IP allows for a diverse range of activities and uses within urban spaces, catering to the needs and interests of different demographics. By encouraging a variety of programming, urban areas become more vibrant and inclusive. IP can also facilitate social mixing by bringing together people from diverse backgrounds and communities. By creating opportunities for interaction and collaboration, IP initiatives can help bridge social divides and promote a sense of belonging and cohesion in urban areas. QUARTEL CABEÇO DA BOLA is a good example. After 11 years in Largo do Intendente and sharing the condition of many socio-cultural organizations of common interest that ran out of space for affordable rent in the Arroios neighborhood, Cooperativa Largo Residencias promoted the temporary occupation and repair/maintenance of significant parts of the former GNR headquarters Cabeço de Bola. A stay that was temporary (until the Government started implementing a housing project there) but which opened the door to many resident projects and to a regular program in the various spaces. Indeed, more than 120 people worked in the Quartel permanently on around 50 individual and collective projects and 900 activities and events that helped to design a cultural program open to the public.

Embracing Experimentation and Flexibility: IP encourages experimentation and flexibility in urban design and programming. This approach allows for adaptive responses to changing needs, fostering innovation and resilience in urban environments. An example of this is: SUPERBLOCK CAMPO DE OURIQUE. In the Campo de Ourique neighborhood, between September 9th and 17th, the concept of the Superblock, similar to that of Barcelona, was tested for the first time. The streets around Jardim da Parada were closed to automobile traffic, aiming to expand the public space (from 5,400m^2 to 9,700m^2) and encourage healthier mobility habits. Additionally, by offering a varied schedule of activities, the initiative aimed to foster a sense of community. The process was initiated by a group of residents and received support from various associations advocating for road safety, the environment, and urban mobility. Currently, the Lisbon City Council is evaluating the possibility of making the initiative permanent.

Facilitating Community Engagement and Public Participation: IP initiatives often involve collaboration and engagement with local communities. By actively involving residents in the planning and decision-making process, urban planners can ensure that developments reflect the needs and aspirations of the people they serve. This is what we can recognize in JARDIM DAS PLANTAS DOADAS. It is an initiative of a citizen passionate about plants, Nuno Prates, who decided to transform the flowerbed in front of his study / library into a garden of tropical plants. The initiative of Nuno Prates made sure that the local administration, despite a first negative approach, started a program in which residents can apply and obtain a flowerbed to create their own (public) garden.

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Fig. 1.
Superblock Campo De Ourique (© LLP)

Fig. 2.
Selim - Bike Bank (©Nuno Cera/CML)

Ensuring Affordability and Accessibility: IP can contribute to making urban spaces more affordable and accessible to a broader range of people. By providing temporary or shared resources, such as housing or transportation, IP initiatives can help address affordability challenges and improve access to essential services and amenities. A good example is the long-term loan mobility incentive system SELIM - Bike Bank, a project by CICLODA - Association for Cyclomobility Workshop, with the support of the Lisbon City Council. It's a program that involves collecting, repairing, and providing used bicycles to those in need on a long-term loan basis. Created to support the mobility of all people who need to move around during the COVID-19 pandemic and do not have a bicycle, Selim currently has nearly a thousand members. Over 150 bicycles have been delivered, including bicycles collected from shared bicycle fleets that have ceased operations, as well as from individuals.

By embracing these principles and harnessing the potential of Intermittent Practices, urban planners and stakeholders can adopt a more dynamic, flexible and inclusive approach to urban planning, creating cities that are resilient, vibrant, and more responsive to the needs of their inhabitants.

Lisbon Metropolitan Area Public Spaces Atlas
An overview

*Ana Beja da Costa**

The Atlas for the Lisbon Metropolitan Area Public Spaces is the core body of the MetroPublicNet research project, regarding the public space requalification interventions in the Lisbon Metropolitan Area (LMA), in the past 25 years (1998-2023). It presents the information gathered in MetroPublicNet research, as result of the 'research-by-mapping' component, that unfolded in a process of interpretative mapping at multiple scales, working as a recognition tool, testing scales and territory types, and for the representation of a vast public space interventions universe. The identification and mapping of public space qualification interventions included those within the public domain and outdoor spaces, predominantly located on already developed urban fabric or built areas, as well as interventions that although dominantly responding to specialised or sectoral purposes (i.e. water course regularisation, introduction of stormwater infrastructure, road redesign to improve safety, etc.) are also offering amenities for active mobility, for outdoor activities and conviviality.

The identified public space qualification interventions were included in the MetroPublicNet GIS database, that served as base source for all the Atlas mapping exercises. As result, the Atlas showcases the MetroPublicNet outputs in a multi-scale approach: the scale of the LMA; the scale of selected case studies; and the intermediate scale of a territorial sample. It aims at the systematic decoding, and non-hierarchical comparison of the various interventions according to a set of urban systems and features that coexist and constitute the public space. Taking mapping as a recognition tool, allowed to test hypothesis, systems of typological organisation, or interpretative associations of multiple objects.

The first scale is the one of the LMA, dedicated to the systematised presentation of the collected data at the metropolitan scale, providing a territorial overview of the distribution and composition of the qualified public space system over the last twenty-five years in Lisbon Metropolitan Area. A first level of quantitative analysis organises results in six points: 1) time frame, 2) location, 3) territorial typology (urban and territorial context), 4) spatial type, 5) type of institutional and funding framework, 6) proximity to living places and land uses. On a second step, a multi-systemic interpretation highlights the interventions' impact and relationship with relevant metropolitan infrastructures and spatial patterns.

The second scale, of selected case studies, focuses on public space requalification projects that were identified as relevant in terms of their geographic, locational, and programmatic diversity, and decoded through a systematic de-layering. It showcases the mapping method developed within the MetroPublicNet research (Fig. 1), as means of understanding each public space project, in its territorial embeddedness. The case study's scale approach highlights possible intersystem spatial relations, between public space and other thematic polarities, that contribute to better understand the articulation between isolated public space qualification projects and their contribution to a metropolitan scale network. A sample of the cases is illustrated.

Finally, the intermediate scale of a territorial sample introduces a mapping approach that lies in-between the metropolitan and the case study scales, focusing on a territory selected by being also intermediate – between complex geomorphological features, comprising heterogeneous urbanisation, and large-scale mobility infrastructures, and centred on the meeting administrative boundaries of four municipalities. The interpretation exercise was organised according to three systemic research rationales: walkability and active mobility; green and blue infrastructures; and neighbourhoods' connection and cohesion.

Standing at the core of MetroPublicNet's research in its goal to survey the potential of a combined approach to public space qualification development in addressing the challenges of metropolitan territories, the Atlas build-up process lead to a spatialized

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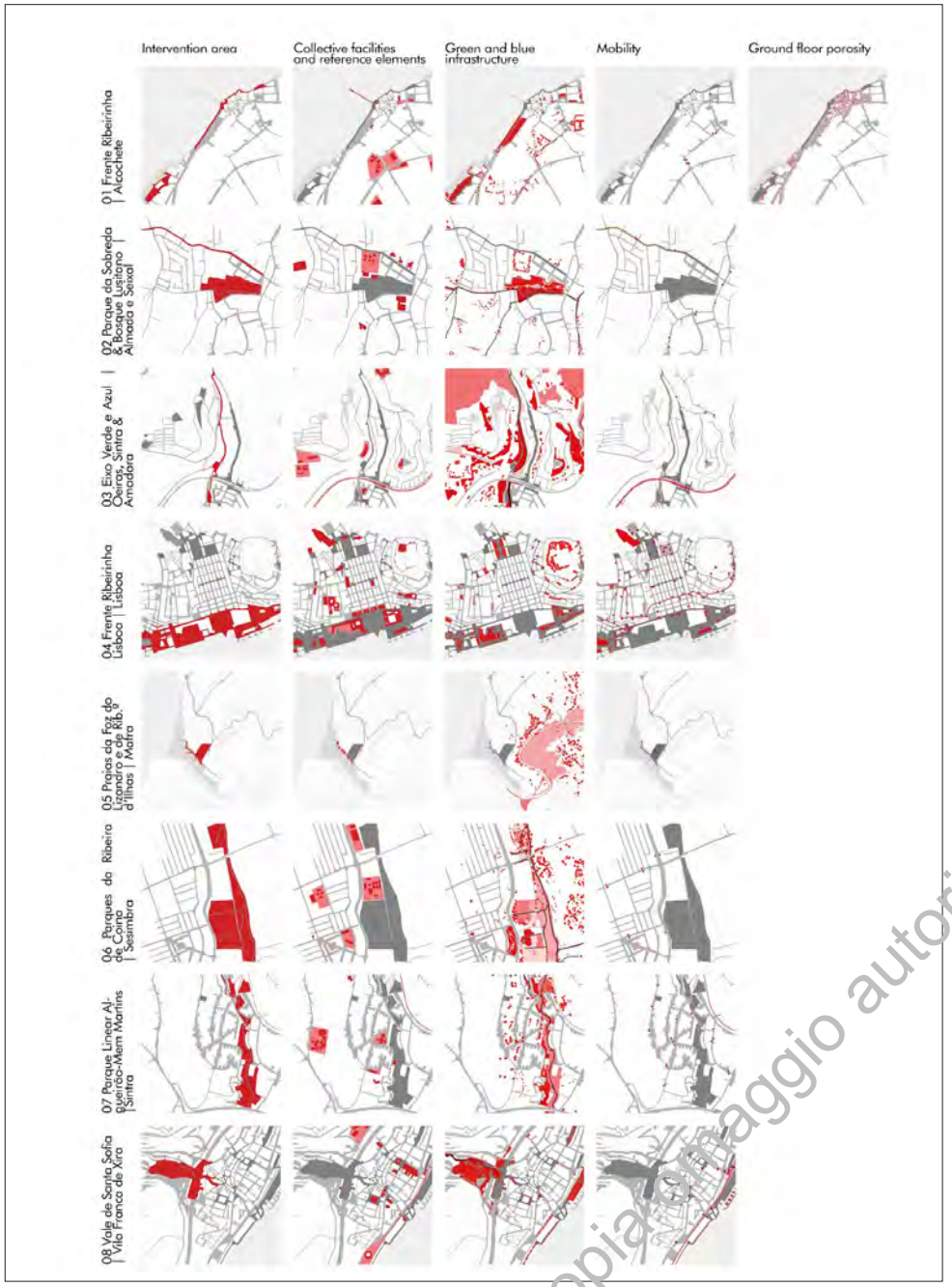
Fig. 1.
Graphic interpretation matrix of the "Green and blue infrastructures" case studies according to: i) Collective facilities and reference elements; ii) Green and blue infrastructure; iii) Mobility; iv) Ground floor porosity. (Source: MetroPublicNet)



overview of the LMA public space requalification projects. Based on a thorough and comprehensive inventory, it offers a systematised representation of the LMA's public space transformation in recent times, allowing for multiple readings and opening new research paths. By using the collected information and associated spatial mapping, synergies towards urban inclusion were detected, within the MetroPublicNet's three key rationales, and transversal to all scales, signalizing an incremental process for establishing a public space network. The dissemination of the Atlas aims at reinforcing mapping as a tool for territorial inclusiveness: through spatial analysis, and its graphical representation, illustrating public spaces in the LMA, both as a cultural construct, and as an operational tool for political and operational decision-making.

Towards a more inclusive and complex construction of Lisbon's metropolitan retail morphology?

Pedro Bento, Alessia Allegri**

General introduction to frame the context of the proposed research:
Considering concrete examples in the Lisbon Metropolitan Area, the present paper shows two very different categories of public/collective spaces that are especially illustrative of such a double vision of contemporary urbanism. On the one hand, the large peripheral shopping and recreational centres, structured according to polarizing regional logics and macro territorial organizations. "Heavy materials", normally connected to large infrastructures and motorway junctions and associated with other facilities. On the other hand, a set of micro artefacts with countless articulations: street vendors, bars on wheels; "underground" restaurants; etc. Places where openness prevails over rigidity and rigor.

Objectives of the proposed research:

The goal is to generate a debate capable of approaching the complexity and the inclusiveness of these two (apparently?) antagonistic logics in the construction of the contemporary city, considering their synergistic complementarity as a starting hypothesis and questioning the idea of the construction of the city, or of the urban, according to a single perspective.

Results *of the proposed research:*

Looking at the contemporary urban territories, one could argue that today's urbanism seems to be suspended in a constant negotiation between two contrasting alternatives. The first, derives from the assumption that development is about accumulation, with exacerbates static and formal urban attributes; the second, derives from the idea that there is a more inclusive, in motion and shapeless expression of the urban condition.

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This paper underscores the pivotal role of commercial and recreational spaces in the analysis, organization, design, and enhancement of metropolitan public areas. Positioned within the ongoing discourse surrounding the interplay between city dynamics, commerce, and societal evolution, it presents two ostensibly opposing models of public/collective spaces. By delineating these models, the paper contends that commercial spaces serve as crucial touchpoints for understanding contemporary transformations and driving significant societal shifts when approached as strategic tools in urban planning. It prompts critical examination of their limitations and innovations, transcending conventional urban planning paradigms.

Central to this discourse is the recognition of the intrinsic interdependence between urban spaces and commercial environments. The paper advocates for a holistic approach to city design, emphasizing that the planning of commercial activities cannot be solely driven by economic imperatives but must be integral to broader urban design considerations. It advocates for cities to be conceived not merely for commerce but with commerce, facilitating a convergence between commercial activity and social life within urban environments.

Against the backdrop of sweeping social, economic, and technological changes, the imperative to integrate commerce and its spatial manifestations into urban planning becomes increasingly evident. This necessitates a re-evaluation and reinterpretation of commercial environments, accounting for the inherent flexibility and dynamism of contemporary social and economic processes. Such shifts are reflected in evolving patterns of space utilization, including the rise of remote work and the preference for transient services over permanent ownership. Advanced mobile communication technologies and ubiquitous social networks further accentuate this trend, fostering a culture characterized by the fragmentation of time into numerous "present moments".

The ongoing transformations in commerce challenge the traditional perception of cities as stable, static entities. These changes fundamentally reshape established patterns of urban spatial utilization and social interaction, giving rise to novel urban practices and configurations. Consequently, traditional distinctions between public and private realms, physical and virtual spaces, and economic and political spheres become increasingly blurred. This fluidity engenders a landscape of continuous possibilities and multiplicities, embodying the essence of the contemporary city as a dynamic and evolving entity.

Fig. 1.
CRIL and Cabos d'Ávila intersection, shopping centres in the back, (Pedro Bento, 2023)

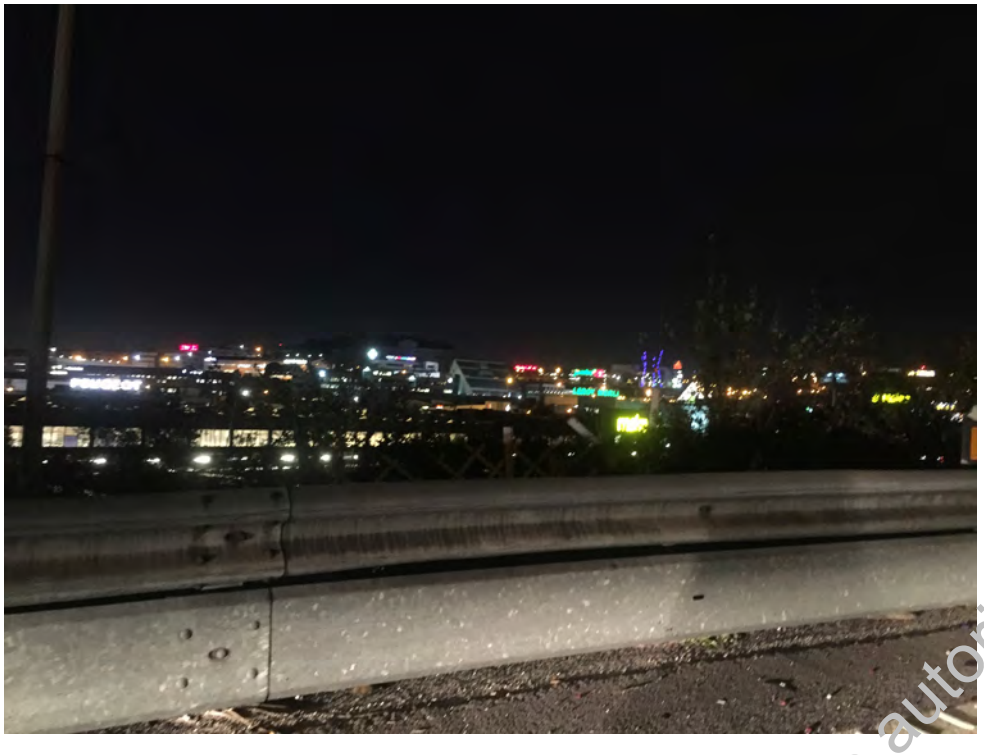

Fig. 2.
"Hiper Snack bar Canecão" Foodtruck, Lisbon Metropolitan Area. (Alessia Allegri, 2023)

Towards inclusive water management practices

*Maria Matos Silva**

To face ever impending global crises, communities need to transition to holistic design approaches in opposition to single sole-solutions or mere technological fixes of a particular parameter. Technical evolutions enabled incredible and extremely resourceful advances that must be valued and not ignored. Yet we must enrich current knowledge and practice, especially regarding the urban water cycle, by claiming and employing new water management designs that promote the establishment of uncertain ecological and emotional values through compelling relationships among all elements, living or material. In other words, water management practices need to be more inclusive and consider subjective aesthetic and cultural knowledge alongside objective technical competences.

Looking into Alexander von Humboldt's approach to studying landscape, topography is understood as a fundamental aspect for the interpretation Earth's features and processes. He further recognized and developed upon the significance of water systems in shaping landscapes through a variety of processes such as movement, erosion, deposition, or distribution (Humboldt, 1845). There is no question on how water is one of the most basic elements of Landscape. While the processes associated with water are intrinsically dynamic and inconstant, it is water that gives rise to the most enduring engravings on the landscape. While the permanencies of water systems are structural in the landscapes, the mutability of their processes is also a structuring system. On the other hand, the same way a landscape of a river is not just water or associated water systems but also the enveloping relationships with communities, it is no surprise how plainly landscapes can be differentiated considering the distinct ways water processes have been managed and shaped in line with evolving cultures and corresponding ecological, social, and economic priorities.

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Although most cities still perpetuate water management principles and "modus operandi" from the XVIII century regarding water management, throughout history one may note a big turn in the 'before' and 'after' the industrial revolution, particularly in the so-called "developed" countries. In this turning point, traditional practices, that inevitably assumed a balanced power-relation between communities and the natural processes, progressively changed to operations whose main goal consisted in taking the most advantage out of the water cycle by aiming for its control. Of course, severe climate-driven catastrophes later clarified as utopian the ambition of Man controlling any natural system in its entirely. As stated by André Barata, the current planetary crises (economic, social, climatic, environmental..) demands a paradigmatic "revolutionising" (through small contagions and contaminations) where everything should be thought from an ecological category, forcing us to put relationships in first order: "the convivial relationship, the relationship of environmental diversity; but also cultural, of ways of seeing time, space, and places" (Barata, 2022 p.13, author's translation). Fortunately, public space offers such possibility for re-establishing these relationships, reinforcing the role of its design practice, particularly in the effort for a matured relationship between urban territories and its associated water systems.

The objective of this essay lies on the construction of a theoretical argument to answer this question: what if public space, encompassed within a wider metropolitan sustaining network, could embrace the water resource in its design, so that the (still) disproportionate anxiety of its control is pacified and balanced with the preference of safe, experimental, inclusive, and continuously monitored endeavours open to uncertainty? More specifically, considering public spaces as good descriptors of the urban-water cultural relationships, this research explores Lisbon's evolution regarding water management by establishing a parallel with "Urban Water Transitions Framework" as proposed by Brown et al. (2008). As a case study, particular attention is given to the recent public space inventions within Lisbon's Metropolitan Area (Santos, 2020).

Designing 'with' water and 'for' water is intimately associated with the understanding of the watershed, in its ecological, social, and economic aspects, both in retrospect and in future reasoning. Lisbon's Metropolitan Area (LMA) encompasses a very rich difference among watersheds, further comprising recent distinct public spaces qualifications, where one can note the paradigm shift in the design principles associated with water systems and respective floodplains. Transversally in all municipalities of the metropolitan area of Lisbon there has been a progressive implementation of riverside parks, sometimes motivated by infrastructural works and stream regularization, giving rise to associated public space projects, which added rest areas, soft mobility routes and equipment. The thirteen (13) public spaces to be discussed, which encompass parks, gardens, and riverfronts, are examples of this new paradigm in the relationship between urban areas and water, where the hydric functions of floodplains are complemented with parallel functions, such as climate change adaptation to and public encounter (Figure 1).

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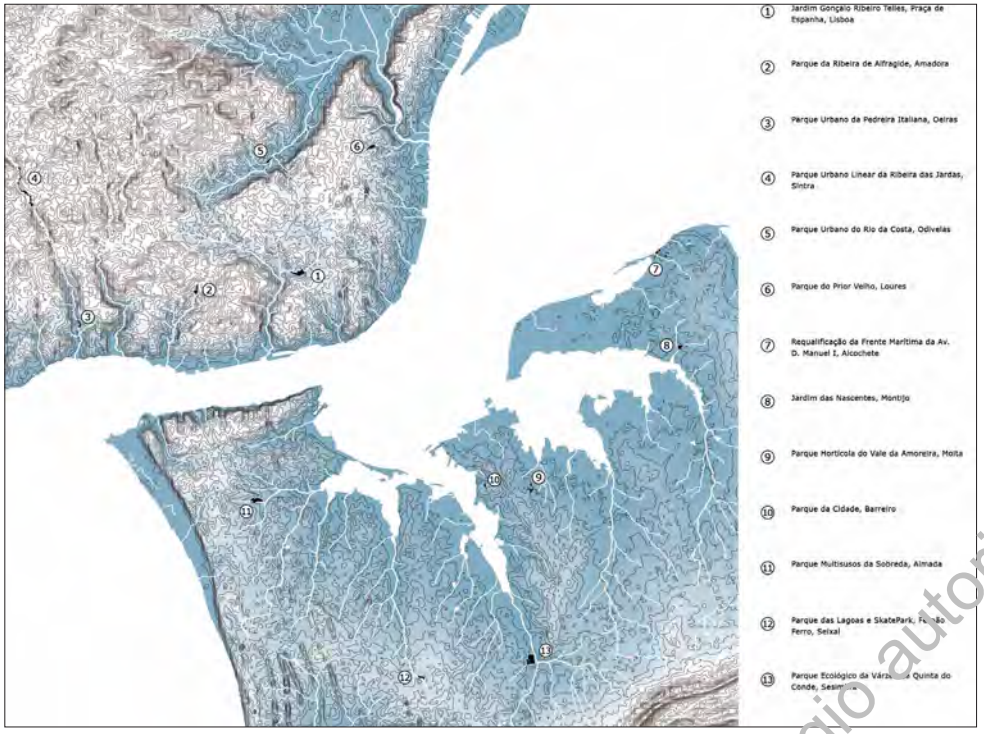

Fig. 1
Lisbon's Metropolitan Area and the identification and localization of the thirteen (13) public spaces discussed in this essay. Source: MetroPublicNet research project

Public Space as a tool for metropolitan cohesion? Learning from Lisbon

*João Rafael Santos**

The improvement of public space, the breaking of socio-spatial barriers, the promotion of more accessible connections to collective facilities, or the activation and mixing of commercial and other shared activities in urban space are seen as relevant tools to promote social inclusion. Often facing significant socio-spatial disparities, such democratic and consistent provision is not a given characteristic. Quite on the contrary, many areas are segregated from amenities that are considered as fundamental for the quality of life: areas that were developed under fast-growth models with poor and low-quality infrastructure; illegally subdivided or self-built precarious neighbourhoods; concentrated pockets of social vulnerabilities in social housing estates; post-industrial areas with high unemployment levels; spatially splintered urban fabrics, cut off from adjacent areas by heavy infrastructures or prominent topographical limits.

In recent years, Lisbon Metropolitan Area (LMA), has been transitioning towards more polycentric and regeneration-based dynamics, where public space requalification is playing a prominent role. This transition has placed public space at the confluence of multiple urban development programmes that not only respond to the ever-evolving demands and expectations of society, but also to the national and EU urban policy agendas. Among these, urban inclusion is often claimed as a key objective, but just as public space, it seems to be achieved through other rationales, namely those that, at a local level, can be materialized as a physical intervention – i.e. promotion of walkable and cyclable accessibility, of convivial amenities, of comfortable and safe urban spaces. However, as a result of highly heterogenous development patterns and the juxtaposition of a complex and often unarticulated administrative jurisdictions, considerable gaps remain in a cohesive and coherent public space policy perspective to respond to the metropolitan challenges of urban inclusion.

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MetroPublicNet, a FCT funded-research project (http://doi.org/10.54499/PTDC/ART-DAQ/0919/2020), aims at critically assessing urban qualification projects in LMA in the past 25 years (1998-2023), many of which developed under EU funding and policy frameworks, with declared concerns with socio-territorial cohesion and urban inclusion. The project produced a territorialized and systematized mapping and database of more than 1000 projects, enabling 1) an outline of relevant relationships between public space transformations and the LMA's socio-spatial structure and 2) the assessment of specific policy frameworks to address critical dimension of urban and territorial inclusion.

This presentation reveals three findings from the project's assessment of recent public space requalification projects in LMA:

1) The distribution of delivered public space interventions in relationship to a spatialized portrait of social vulnerabilities, through a multi-criteria analysis of four variables by statistical section (Fig. 1): a) population without higher education; b) unemployed population, including those looking for their first job; c) illiterate population; d) buildings in need of medium or major repairs. A spatialized and statistical analysis shows a marginal tendency to favour the more vulnerable areas than those with lower socio-economic risks, revealing a positive approach to the redistributive and cohesive rationality of recent public space investment in LMA.
2) The distribution of public space interventions in relatively anonymous, common residential areas, with collective housing and middle-to-high density patterns (Fig. 2) – where the majority of LMA's population live –, which account for almost 51% of the intervened public space area. This number reveals a concern for the extensively urbanised fabric, in which the improvement of green space and the requalification of local streets, traffic calming measures, or the requalification of urban water courses add a significant quality to a wide segment of the metropolitan population.
3) The distribution of public space interventions in relation to the publicly managed housing estates, most of which tend to be self-centred and often neglected in local amenities and urban environment quality. In the past 25 years, many have been targeted as a priority in requalification programmes, especially in terms of green and social spaces. However, in the face of persistent levels of poverty and socio-economic exclusion, recent projects focused on better connections for active mobility to break down barriers and improve accessibility. When looking at more localized part of the metropolitan territory, on the confluence of Lisboa, Amadora, Oeiras and Odivelas municipalities (Fig. 3), two patterns emerge. One of large, diverse and spatially articulated operations (Zambujal, Outurela, 2 de Maio and Alfantara Valley), with high-investment costs, and a second, with smaller actions related with green space or small convivial squares, with very limited relationships with their surroundings.

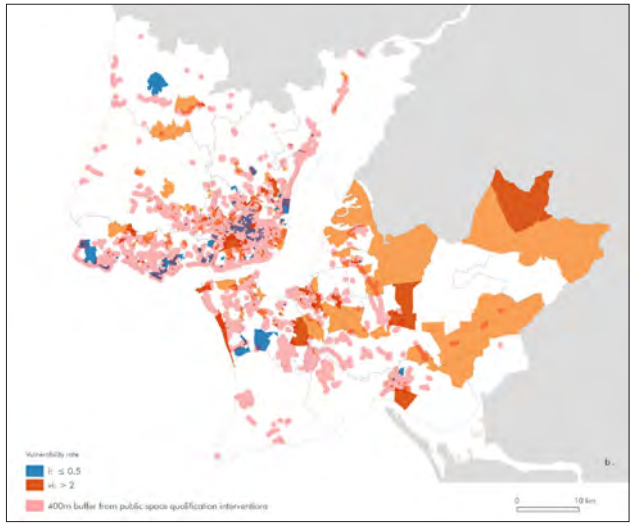

Fig. 1.
Vulnerability map of LMA: least and most vulnerable statistical sections and 400m buffer from public space qualification interventions. (Source: Marina Carreiras and the author, as part of MetroPublicNet team, based on Statistics Portugal Census Data 2021)

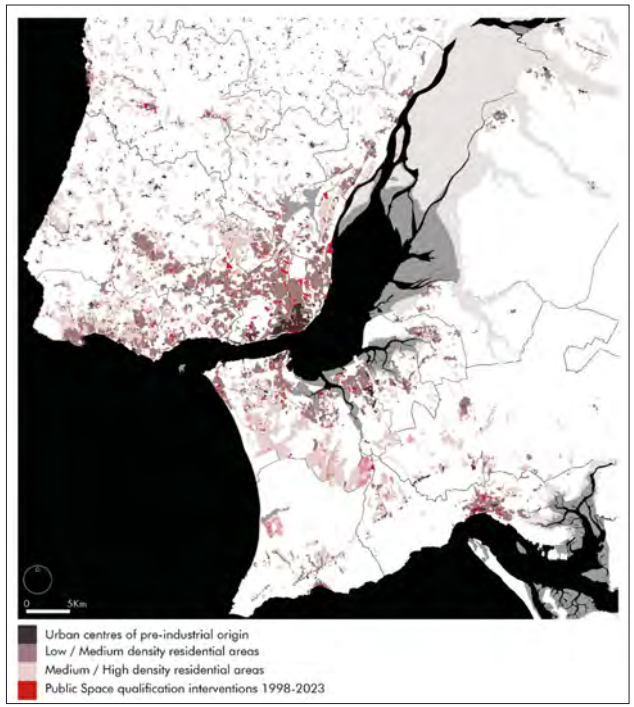

Fig. 2.
Public Space interventions (1998-2023) and LMA's residential urban fabrics (Source: the author and Ana Beja da Costa, as part of MetroPublicNet team)

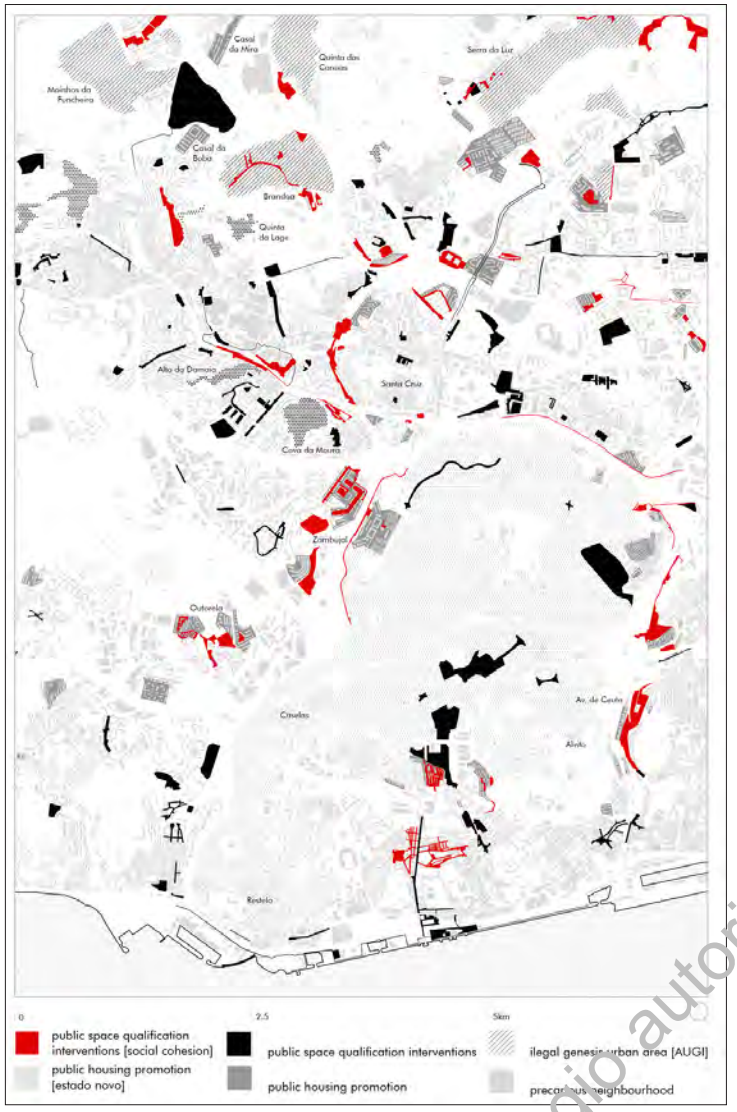

Fig. 3.
Public Space interventions (1998-2023) and critical neighbourhoods in territorial sample (Source: the author and José Duarte, as part of MetroPublicNet team)

Special Workshop

Enhancing urban regeneration and spatial justice with Nature-Based Solution

Coordinators
Daniele La Rosa
Marialuce Stanganelli
Michele Grimaldi

NbS and Social cohesion: the CLEVER Cities experience

Russoli's Towers and Giambellino Park 129

*Emilia Barone, Chiara Desiderio, Myriam Lunghini**

The subject of discussion concerns the impacts – in terms of urban regeneration, improvement of social cohesion, and the use of Nature-based Solutions (NbS) – of co-design experiences for the requalification of the social housing towers in via Russoli and for the creation of Giambellino Park, interventions located in an area of southwest Milan characterized by a multiethnic and fragile social fabric.
Both experiences have been developed within the European project CLEVER Cities, aimed at advancing knowledge on NbS for inclusive urban regeneration, integrating NbS into regeneration and urban planning processes, and building governance, commercial, and financial models for NbS projects. The project, which also involved the cities of London and Hamburg over a period of 66 months, activated three laboratories, the CLEVER Action Labs (CAL), to experiment with solutions suitable for achieving the following objectives:

- implementing, through a co-creation process, experimental naturalistic solutions, innovative and replicable, through the development of a promotional campaign aimed at the diffusion of green roofs and facades and support for experimental implementations, CLEVER Action Lab 1 (CAL 1);
- monitoring their effects, also concerning the perceived social benefits for citizens, which led to the co-design and management of public green areas (Giambellino Park 129) with innovative methods for the diffusion of NbS, CLEVER Action Lab 2 (CAL 2);
- promoting the use of NbS, with a focus on the experimental integration of greenery into railway infrastructure, multifunctional greenery in the station area, and acoustic mitigations, CLEVER Action Lab 3 (CAL 3).

Within CAL 1, the publication of two public calls aimed at, respectively, a) identifying subjects interested in the implementation of green roofs and/or walls eligible for financial support funded by the CLEVER Cities project and b) establishing a long list of experts experienced in their design, supporting the development of three interventions to implement NbS, including the energy requalification of 4 social housing towers located in via Russoli (fig 1 and 2).

The co-design process, which involved residents of the towers organized in a "Self-management Committee" for several years, led to the realization of green roofs as spaces dedicated to social activities, such as vegetable cultivation or the organization of community events, and to the definition of a detailed management model for these new spaces. This model confirmed and enhanced the role of the "Self-management Committee" on one hand and will lead the resident community to collaborate with other entities in the neighborhood such as students from the nearby university or commercial entities operating there.

The experience in via Russoli highlighted the elements that facilitated the process:

- the presence of already organized residents, sensitive to certain issues;
- the possibility of benefiting from the funding support provided by CLEVER and the co-presence of other economic supports such as the BE2 call and the Bonus110%;
- the interest and collaboration of all stakeholders involved and the institutions gravitating in the area (university) as well as economic operators (retailers).

Within CAL 2, Giambellino Park 129 was born from the transformation of a plot, originally abandoned and polluted, into a green area of 27,000 square meters in a densely urbanized and green-poor context. This transformation resulted from a co-design process involving neighborhood associations and individual citizens in collaboration with MILO-Lab, a service dedicated to the residents of Lorenteggio.

In addition to the opportunity to include NbS such as a bird garden, a flower meadow to increase the presence of butterflies, a wild orchard, vegetable gardens, and two green walls, co-design also led to the definition of a shared area to experiment with the effects of different NbS as well as forms of co-management in the use of the area (fig. 3).

The experience of the new Giambellino Park 129 highlighted the following elements as facilitators of the process:

- the interest and collaboration of all stakeholders involved, primarily the willingness of the administration to adapt its practices to the needs of the participatory process;
- the constant involvement of neighborhood associations and individual citizens in the design, also thanks to the identification of a unique coordinating entity, MILO-Lab, in the citizen-administration relationship;
- involving citizens in various phases of park realization, including a tree-planting event, was crucial for enhancing the sense of belonging of the area's residents.

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Fig. 1.
State of affairs

Fig. 2.
Work in progress

Fig. 3.
Giambellino 129

Nature-based solutions for improving efficiency in urban settlements. A model for its measurement

Federica Cicalese, Isidoro Fasolino***

Nature-based solutions (NbS) are a broad concept that, while not having a universal definition given the range of objectives included in the approach, can be explained as "solutions inspired and supported by nature that are cost-effective, provide simultaneous environmental, social and economic benefits and help build resilience. Such solutions introduce a greater quantity and variety of nature and natural features and processes into cities, landscapes and seas through systemic, locally adapted and resource-efficient interventions" (EC,2022). NbS are fundamental approaches to address environmental challenges by harnessing the power of nature. They utilize ecosystems and biodiversity to provide sustainable solutions for various societal needs, such as climate change mitigation, adaptation, water management, and disaster risk reduction.
In the context of urban areas, NbS relies on the use or creation of natural features and characteristics in and around cities to provide essential ecosystem services. These services, in turn, contribute to various aspects of sustainable urbanisation.

Within this framework, the maintenance and enhancement of natural capital, and thus green infrastructure, are of crucial importance in promoting urban sustainability, as they provide the basis for solutions, supporting the ecological functioning of the urban ecosystem, with efficiencies that depend on species assemblages, their spatial configurations and the adoption of appropriate planting and maintenance techniques.

Green spaces are important reservoirs of urban biodiversity, improving functional and structural connectivity at the urban level. They contribute to mitigating the urban heat island effect, improving air quality and enhancing the health and well-being of residents, while providing a habitat for urban wildlife. Urban green planning, understood as the design of spatial configurations of green infrastructure, is therefore crucial to promote sustainable urban ecosystems through a conscious use of vegetation. Their design should, moreover, be taken into account from the earliest stages of urban planning in order to maximise their ecological efficiency, and the infrastructure itself should not be seen as a mere aesthetic expedient or treated as an element detached from the territorial context.

With the aim of measuring the performance of NbS, this research, funded by the MIUR with the PRIN 2022 "NatSolis", proposes a methodological approach to sustainable green urban planning that takes into account the ecological role of vegetation in urban ecosystems. The proposed approach is based on the identification of a set of indices to quantify the different functions exercised by vegetation in urban ecosystems. The aspects taken into consideration, for each of which an indicator capable of translating the performance provided into quantitative terms has been defined, are 10 (Permeability, Rainfall interception, Transpiration, Photosynthesis, Particulate interception, Environmental diversity, Ecological connectivity, Shading, Wind attenuation, Acoustic and visual insulation) and refer to 5 different ecological functions: Urban Climate (UC), Air Quality (AQ), Biodiversity (B) and Comfort (C).

The methodology aims to bridge the gap between classical approaches to urban green planning, which ignore the ecological functions exerted by vegetation, and ex post modelling of the role of vegetation in determining the dynamics of urban environments. By estimating the functions provided by different green materials (trees, shrubs, hedges) in urban ecosystems, through a series of specially developed equations, the methodology allows to optimise the development of urban plans by maximising the contribution of vegetation to ecosystem dynamics. Subsequently, the indicators obtained were compared with the Abacus of NbS proposed in the Metropolitan Territorial Plan of the city of Milan of 2022. It was then possible to associate different NbS present in the

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document with the indicators formulated, thus obtaining the possibility of measuring the performance of a subset of NbS, which is the one we considered. Specifically, the NbS that can be measured are: green areas, which respond to the permeability function; rain gardens, which allow rain interception; street trees and natural green shelters, which provide shade; and green barriers, which respond to visual and acoustic insulation. The aim is to extend the research, resulting in the formulation of further indicators that can measure a wider range of NbS.

In conclusion, measuring nature-based solutions in urban planning is essential for optimizing decision-making, resource allocation, and monitoring progress towards sustainable and resilient cities. By quantifying the benefits of NbS, cities can harness the full potential of nature to address pressing urban challenges and create healthier, more livable environments for current and future generations. The proposed methodology, using a combination of ecological metrics, allows stakeholders to accurately assess the performance of nature-based solutions and maximise their potential to address environmental challenges and promote sustainable development.

NbS		Measure
Green areas		Permeability $P = \frac{G_p + \phi_s G_s}{G}$
Rain Garden		Rainfall interception $Ri = \sum_{i=1}^{N} \left(1 - e^{-kw_i L_i \Omega_i}\right) \cdot p_i$
Street trees Natural green shelters		Shading $S = \sum_{i=1}^{N} \left(1 - e^{-k_i L_i \Omega_i}\right) \cdot p_i$
Green barriers	 	Acoustic and visual insulation $I = \sum_{i=1}^{N} \rho_i v_{i\|w} e^{-\tau d_{i\perp w}}$

Fig. 1.
Association of green performance indicators with NbS

Nature-Based Solution for Enhancing Climate Resilience

Sustainable Urban Regeneration for Barcellona 11@ Innovation District

*Martina Di Palma**

In line with the IPCC's recommendations, managing the risks associated with extreme climate events requires a holistic approach covering both structural and non-structural measures for the project of climate adaptation. The former involve the implementation of green infrastructures (UGI) and the integration of hybrid systems into conventional gray infrastructure through low impact development (LID) systems and Nature-Based Solutions (NBS). The second involves the investment of economic resources in governance programs aimed at prioritizing adaptation and mitigation actions, the adoption of innovative technologies for ecosystem mapping and monitoring, and the implementation of climate risk prediction information models.
Nature-based solutions (NBS) act as natural technological devices within the Urban Green Infrastructure (UGI) network, capable of improving climate and social resilience of strongly anthropized and infrastructured urban systems.

These solutions take advantage of ecosystems' inherent capacity to quickly provide ecosystem services for microclimate regulation, which in turn allows urban areas to adapt and mitigate the effects of climate change. Implementation in the urban system of NBS aims to harness and preserve the natural functions of ecosystems, providing multiple benefits such as managing weather flows, reducing the heat island effect, improving air and water quality, preserving biodiversity, improve the quality of life and health.

Moreover, the integration of NBS in urban regeneration project are catalyst for technological innovation by influencing the adoption of more suitable and resilient approaches in urban green areas planning and governance. To ensure the effectiveness of the proposed solutions, it is essential their proper siting to maximize the benefits achievable. At the same time, it is crucial to quantify expected performance in different urban vulnerable contexts to reach climate and social resilience targets. This implies the mapping and quantification of the effectiveness of solutions in different scenarios. Advanced technologies are used to have a response of the environmental performances, to adjust intervention strategies and ensure the best possible outcome.

The main aim of the study is to identify a best practice in integrating Nature-Based Solutions into processes of sustainable urban regeneration, with a specific focus on former industrial areas, which are typically heavily vulnerable systems. To conduct this analysis, the case study of the 22@ district in Barcelona has been selected, known for its industrial past and current challenges related to climate and social resilience. In particular, the risk of heat island phenomenon, which has significant implications for the health and well-being of the urban population, has been considered.

The Innovation District 22@ Barcelona represents a paradigmatic case of urban regeneration, characterized by a comprehensive approach aimed at integrating diverse components for sustained development. Conceived as a response to the decline of the former industrial sector, meticulous planning and infrastructure development have been key to its success. Centralized systems for utilities such as heating, electricity, waste management, and telecommunications play a pivotal role in ensuring operational cohesion across the district. Moreover, the strategic layout of public spaces and transportation infrastructure fosters connectivity with the city center, facilitating accessibility and enhancing the district's functionality within the urban fabric.

The methodology employed in this study is based on an olistic approach aimed at understanding the transformative potential of an urban area, its priorities and set the information criteria for the mapping process.

Through the process of mapping overlay, this methodology critically integrates various geographic features to achieve a comprehensive understanding of spatial, environmental and social dynamics. Rather than a simplistic overlay, this approach involves interrogating

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data and obtaining Gis Based maps of priorities and opportunities. This process involves an in-depth analysis of the social and climate vulnerability of different urban areas to identify the most critical areas in need of urgent action. Contextually, areas of opportunity, characterized by lower vulnerability but with the potential to maximize benefits through targeted interventions, are identified.

Subsequently, the urban plan of the 22@ district was examined to assess the effectiveness of the proposed solutions in ensuring maximum socio-environmental benefits. This comparison has enabled the determination of whether the proposed model represents a valid approach to addressing the challenges of climate and social resilience, or if modifications are needed to avoid the risk of gentrification and ensure equitable access to the benefits of NBS.

The results indicate that the correct placement of NBS in the urban system, using data-driven methodologies, promotes climate resilience, technological innovation processes and new strategies for the protection of industrial heritage. However, some limitations emerge, including the need to implement continuous monitoring over time to ensure the long-term effectiveness of solutions. To this is added the risk of gentrification in these areas of high historical value, with a significant social and economic implication.

The integration of these types of solutions into increasingly complex urban systems requires integrated data-driven systems to support technology choices and decision-making processes to maximize their achievable benefits and co benefits for local communities. The current challenge requires the use of enabling technologies that can identify and localize urban regeneration opportunities, while reducing the risk of uncertainty and error.

Orienting budget allocation for multifunctional. Nature-based Solutions in Italian metropolitan cities

*Elena Di Pirro *,**, Marco Marchetti**,***, Bruno Lasserre*,***

Nature-Based Solutions (NBS) are recognized for their multifunctionality and capacity to provide co-benefits and are increasingly financed to ameliorate human health and well-being, especially in urban contexts. The benefits provided by NBS are generally delivered over long periods and multiple spatial scales, meaning that benefits are supplied to society as a whole rather than to the single beneficiary. European Union is increasingly financing policies and program to face environmental challenges, coupling adaptation and mitigation actions (nature-based approach and emission reduction) in the political agenda. Air pollution led to half a million premature deaths in 2016 and last European summers were hit by great heatwave episodes and devastating floods. The health risk is amplified in urban contexts where hazard severity and people's vulnerability are exacerbated due to several urban features (percentage of sealed soil, population density). An extended comprehension of the interactions and distribution of challenges and human exposure help define policies, design effective NBS interventions towards minimizing environmental risk exposures, and enhance environmental justice. Recently, the Italian government approved and financed policies to tackle the climate emergency and achieve objectives related to the Air Quality Directive mainly oriented to the 14 Metropolitan Cities (MC). The funding effort follows the rationale that the more populated municipalities overlap with the areas where the quality of life is mostly threatened and consequently deserve high intervention priority. The 14MCs cover about 46,600 km2 hosting about 22M inhabitants showing great socio-economic relevance in the National context. In these administrative domains, urban forestry practices were largely financed (about 330M) as strategic NBS to improve human and ecosystem health. However, evidence-based strategies are still lacking to coordinate local projects able to address multiple challenges simultaneously and ensure environmental justice in the NBS allocation. A cost-effective methodology is indeed missing to implement NBS according to Ecosystem Services demand and thus enhance the return in terms of benefits for the population. This work addresses this gap using MCs as case studies proposing a multi-step and replicable methodology to integrate NBS into a multiscale planning process, identifying the intervention priority to maximize the cost-effectiveness according to people's needs. Three environmental challenges were mapped, identifying spatial groups of their co-occurrences across the 14 MC. These spatial groups serve as functional areas where 22NBS were ranked for their Ecosystem Service supply, costs, and land cover. The relative magnitude of multiple challenges was assessed through a spatially explicit multi-criteria analysis (MCA), then turned into a risk index, in this calculation was also included the population exposure. This risk index was employed to establish the NBS implementation priority across the MC territories to improve human health and well-being. The higher the risk index, the higher the demand for ecosystem services, hence the intervention priority. Therefore, for each MC, implementation of the cost-effective set of NBS was simulated following a descending order of risk index, the selection was identified according to i) the challenge(s) to address, ii) the available land cover, and iii) the costs. Results evidenced that all the MCs show a risk index for human health in about half of the MC territory, ranging from 42%of the territory (MCs of Messina and Catania) to 93%of MC of Milan. However, a high heterogeneity in the risk index distribution is recorded, both between MC (on average, northern ones show the highest risk index values compared to those in the south) and within the same MC (showed by a high value of variation coefficient). MCs of Milan and Naples recorded the highest Risk Index value in absolute terms and are also those showing the highest relative impervious surface (30%and31% respectively) and among the lowest grassland available surface (0.6% and 1.9% respectively), highlighting the importance of focusing the attention on de-sealing actions and implementing NBS on usually unemployed surfaces, e.g., buildings. Regarding the challenges, the most frequent spatial co-occurrence is Air pollution and Thermal stress showing in 8 out of the 14MCs a relative coverage ranging from 59% (Messina) to 97% (Milano). MC of Bologna is the only one showing in 47% of the territory the co-occurrences of the three challenges considered (air pollution, thermal stress, and flood hazard). The cumulative effect of different environmental challenges strongly affects human health and well-being and planning activities need to consider these co-occurrences to better mitigate the negative effects of such combinations. Thus, interventions' priority based on risk index helped to prioritize and orient NBS across the portion of territory with high ecosystem services demand hence higher need by urban inhabitants. The most cost-effective NBS resulted: Swales (15.1EUR/m2/yr), Extensive Green Roofs (18.5EUR/m2/yr), Raingarden (13.4EUR/m2/yr), Street Trees(21EUR/m2/

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yr), implementable in impervious surfaces, while Large urban park (37.8EUR/m2/yr) and Infiltration basin (30.6EUR/m2/yr) implementable in grasslands. This work provides a strategic vision to quantify and orient budget allocation within -and among- MC, allowing to maximize NBS's multifunctional potential and the return in terms of human well-being.

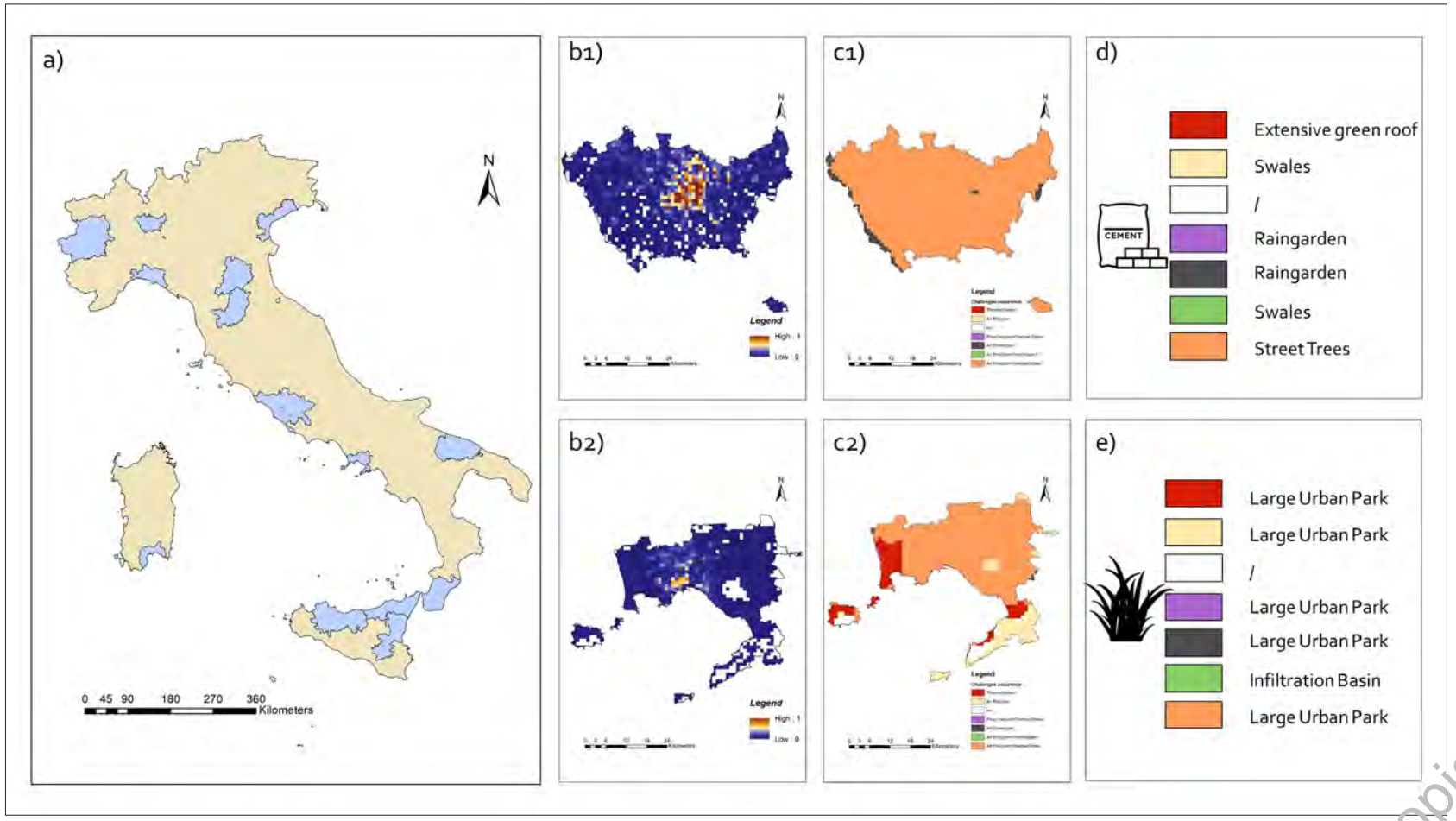

Fig. 1.
A) distribution of the 14 Italian metropolitan cities. B) Distribution of the population health risk index in the Metropolitan Cities of Milan (B1) and Naples (B2). The index varies from 0 to 1 maximum value of the index. The absence of colour represents the absence of risk for the population, due to the absence of population and/or the absence of environmental challenges exceeding environmental quality standards. C) Distribution of environmental challenges and their relative co-occurrence in the Metropolitan Cities of Milan (C1) and Naples (C2). The combinations of environmental challenges are shown in the legend. D and E) The most cost-effective Nature-based solutions to every environmental challenge and related co-occurrence and implementable in already sealed areas such as roads, buildings (D), and permeable non-forested surfaces (E).

NBS as a pragmatic tool for disaster management cycle in earthquake risk.
Critical issues and opportunities in the planning of emergency housing areas in Italy

Maria Sole Benigni Chiara Catalano**,***, Margherita Giuffrè**

Nature-based Solutions (NbS) (1) must respond to multiple societal challenges (2) where, together with climate change mitigation and adaptation, the disaster risk reduction (DRR) is one of the most crucial (2,3). NbS have been commonly used against climate related hazards such as flooding and heat waves (4), more recently ecosystem-based approaches for Disaster Risk Reduction (Eco-DRR) specifically address also non-climatic hazards such as earthquakes and tsunamis, by minimising the impact and enhancing the recovery capacity (2,5). In this context, the Eco-DRR can support the implementation of the SENDAI framework for disaster risk reduction (6) by acting on planning approaches such as risk-sensitive land use planning (7), when hazard cannot be prevented but the damage they produce can be reduced and managed more effectively. It is a well-known fact that Italian risk management policies are based on the economic compensation and physical restoration of individual assets, using territorial and physical intervention criteria involving very high costs with severe social, environmental, and cultural repercussions on territories. Therefore, it's necessary to change this trend following the approach of 'building back better' and 'greener' (8). The specific focus of the paper is to analyse the Italian framework using as a model of reference the "disaster cycle" (9), a time scheme that put the different phases of disasters in relation to each other in a cyclical sequence and how NbS can be employed. Considering the recovery phase as the "restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society" (6), we focus on the "early" recovery phase. During this phase, temporary housing modules and settlements are necessary to guarantee services and sufficient quality of life for people, thus it is the crucial one in which the progress of recovery begins, and it is possible to intervene with actions to correct the current trend of post-earthquake reconstruction. By describing some critical examples of both temporary and permanent urban reconstruction areas, this research aims to demonstrate that the selection of such areas, and the design and implementation of temporary post-disaster dwelling, have often lacked an integrated approach between social, economic, and ecological equity. It has led to realizing fragmented and isolated settlements, without any kind of infrastructural, functional, and relational context. Such interventions exploit many resources for the construction and preparation of the areas, breaking the original social bonds and producing estrangement and maladaptation (10). Over time, these areas often have been integrated within urban planning tools, as a new building zone thus changing previous land use, consuming soil and eventually fragment habitats (Fig.1). Instead, we believe that temporary architecture for temporary settlements must follow sustainability principles considering useful life cycle, the finiteness of the resources, their reuse and recycling, the reduction of soil consumption making use of NbS. It's critically important to have a strategic perspective by adopting, during the prevention phase, specific criteria to select areas for temporary settlements but also to define spatial, technological requirements for the housing, as well as for the open spaces (Fig. 2). Having a pre-planned strategy allows managing that complexity and making some decisions without the pressure of a post-disaster scenario (11). In this research we suggest applying NbS typologies, criteria, and implementation practices for the design of integrated settlement systems which shall include new temporary but reversible functions for both the post-event and the 'peacetime' phases within the institutional framework of strategic urban planning. Finally, in the current national debate between prevention and emergency policies, the research aims to highlight the necessity to consider the NBS approach as a priority.

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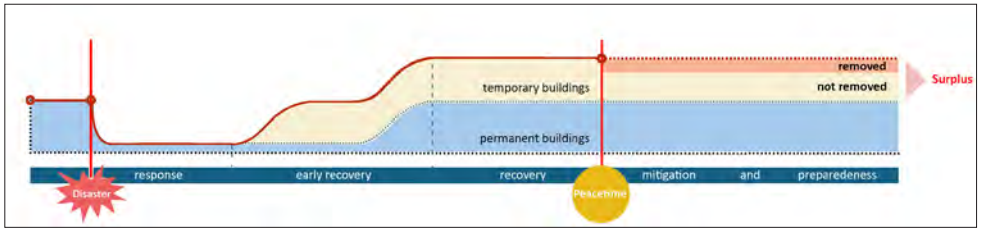

Fig. 1.
Disaster risk management showing the conventional emergency dwelling and planning response to earthquakes. After the earthquake, the existing building stock is damaged and dwelling need is temporarily solved by the construction of temporary housing, built using conventional techniques, on peri-urban areas. When the reconstruction phase is completed, the areas for temporary accommodation do not return to their original condition, thus creating a surplus of built-up areas. Over time these areas turn into built-up areas either used for other purposes, or into abandoned areas or into areas that are no longer built-up but still have traces of urbanisation.

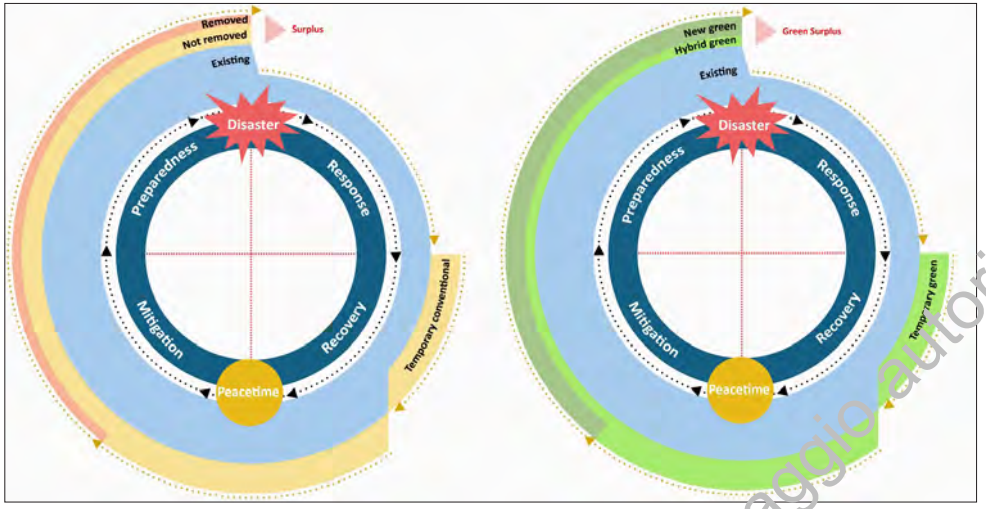

Fig. 2.
Comparison between the conventional and the NbS Disaster Risk management approaches for the emergency dwelling and planning response to earthquakes. After the earthquake, temporary housing is created with NbS techniques, allowing some of these areas to return to their original condition and limiting the creation of surplus built-up areas. Over time these areas can be transformed into new green spaces or new hybrid ones (i.e. NbS together with other technologies).

Knowledge and experience of NBS for urban issues. A literature review

*Alessandra Marra, Michele Grimaldi**

Scientific scholars, as well as international public authorities, recognize Nature Based Solutions (NBS) as capable of bringing numerous social, environmental and economic benefits to urban areas, allowing the latter to address various issues, to which they are increasingly exposed. In this global scenario, it is evident the importance of incorporating the NBS concept into urban planning, in order to address the new societal challenges.
The work is part of a broader research project[1], with the main aim of defining a Spatial Decision Support System (SDSS), consisting of an integrated set of models, capable of systematically addressing issues relevant to urban and metropolitan areas: energy consumption, climate and water regulation, lack or unequal distribution of urban functions, quality of the urban environment and urban regeneration. This contribution describes a specific phase of the project (WP – Work Package 2), which involves a review process to gather information about the implementations of NBS in urban studies and planning practice. The results are intended to be used in the SDSS to be defined in the subsequent phase of the project (Fig.1).

In relation to urban studies, a systematic review of the international literature was conducted, consulting the Scopus search engine, and using the following two sets of keywords: "Nature AND Based AND Solutions AND Urban AND Planning"; "Nature AND Based AND Solutions AND Urban AND Planning AND Issues". In addition, since the NBS is a widely discussed topic, it was decided not to carry out a new revision, but to conduct a review of reviews. Therefore, the initial sample of publications resulting from the research was limited to products classified as "review" by Scopus. A further selection criterion concerned the language of the contributions, limited to those written in English, as they were comprehensible to the majority of the academic community. Subsequently, the sample was subjected to a screening phase of title, abstract and type of publication, with the aim of excluding products not relevant to the objectives of the work (Fig.2). The scientific reviews included in the final sample were analyzed according to the following parameters: tipology of NBS to address urban issues; NBS benefits and measure of their effectiveness.

In general, it emerged that multiple NBS are recognized to address a plurality of urban issues. However, the effectiveness of the selected NBS in solving these challenges is not always investigated and even less measured, suggesting that further efforts are needed to fulfill these research gaps.

With the aim of investigating the integration of NBS in planning practice, in parallel with the analysis of the scientific literature, it was performed the review of the so-called "grey literature", considered complementary to the peer-reviewed one. More precisely, the chosen grey dataset is composed, for each Italian region, of the reference law on urban planning and territorial government, hereinafter referred to as the Regional Urban planning Law (LUR), including subsequent amendments and additions. Given that the LURs regulate the content of regional, provincial, municipal and local plans, investigating whether and to what extent the concept of NBS is included in the LURs is useful to understand how, and in what form, this concept inspires the dictates on the minimum contents of urban and regional planning tools, which must be drafted in compliance with the aforementioned laws. With the exception of the Molise Region, all the others have legislated on the subject, reaching the second or third generation of LUR. The Marche and Abruzzo regions, which approved a new LUR at the end of 2023, represent those with the most recently developed regional legislation on the subject. The texts of the LURs have been analyzed by keywords, selected taking into account that the NBS concept is defined as a more evolved "umbrella concept", which includes several previous concepts, listed below: ecosystem-based adaptation (EbA); ecosystem-based disaster

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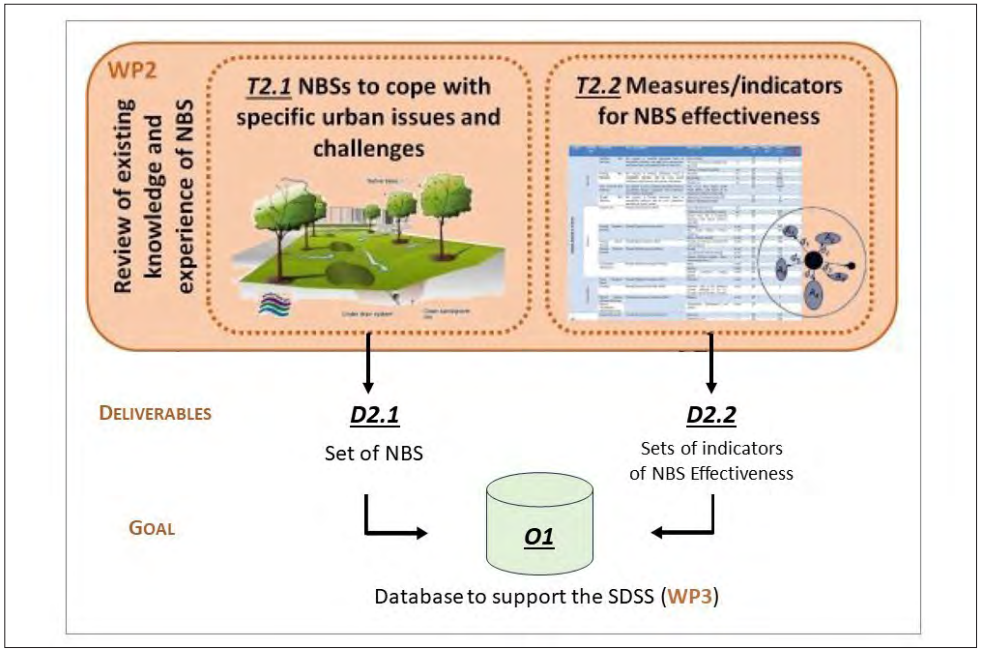
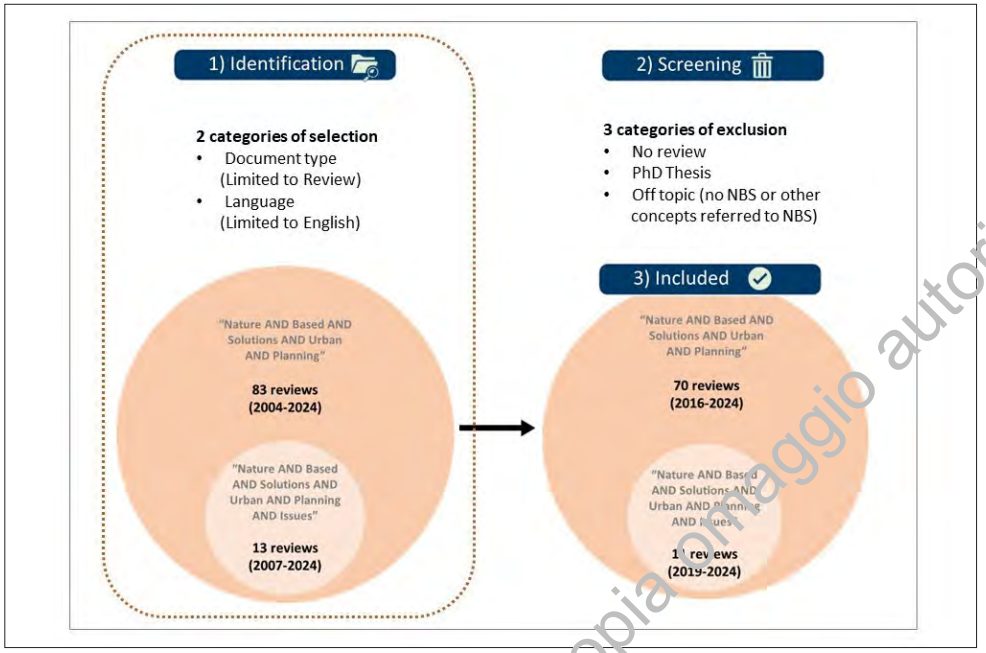
Fig. 1.
Structure of the Work Package 2 (Source: Own elaboration on data from the "NatSolis" research project)

Fig. 2.
Methodological scheme for choosing the sample to analyze. (Source: Own elaboration)





risk reduction (Eco-DRR); green (GI) and blue (BI) infrastructure; urban forestry (UF); sustainable urban drainage systems (SuDs); ecological engineering (EE); water-sensitive urban design (WSUD); low-impact design (LID); best management practices (BMPs); ecosystem services (ES). In addition, sustainable urban drainage systems (SuDs) include different subcategories: beds of native plants; rain barrels; green roofs; porous surfaces. The term "NBS" is present only in a LUR of more recent approval, in particular that of the Marche Region. On the other hand, some of the terms underlying the umbrella concept of NBS are present in several LURs. Following this analysis, it emerged that some LURs are richer than others in relation to a specific subconcept, but there is a lack of integration of the concept of NBS as a whole.

Future development of the work is to broaden the review carried out, integrating the analysis of the grey literature with the examination of the reports of previous research projects, with particular reference to guidelines for practitioners. This will allow for a broader framework of NBS implementations, both in urban studies and in planning practice.

Nature-Based Solutions in historic centres: an exploration of current knowledge

*Giulia Jelo**

Contemporary cities are facing several urban challenges: their high level of exposure to natural risks and low resilience are often caused by specific land-use patterns and unequal pervious surfaces distribution combined with the high population density. Nature-Based Solutions (NBS) stand out as adaptable and multifunctional-engineered green solutions inspired by nature in a way to meet climate resilient transformation, while providing many social benefits. Even though their increasing development in many urban contexts, it has never been clarified how and if NBS can be used in those fabrics that are bearers of cultural, architectural and archaeological values. There is usually an unequal distribution of NBS in the cities, leaving grey gaps. This is particularly the case of historic cities where usually a significant proportion of the land may be occupied by sites designated as cultural heritage. Implementation of NBS in these urban contexts is still limited basically due to widespread policies and programmes which pose several constrains for cultural heritage conservation. These contexts are characterised by deep weaknesses such as limited accessibility, building stock with inadequate housing standards, scarce green spaces endowment and high levels of natural risk exposure. These aspects have triggered, on the one hand, phenomena of deprivation and abandonment, sometimes of entire sectors of historic centres, and on the other hand favoured gentrification practices that jeopardised the heritage itself by interrupting its long-term production cycles. Therefore, it would be a challenge as ambitious as necessary to regenerate historic centres through implementing strategies of greenery integration as well as built heritage conservation, which can guarantee higher levels of quality, safety and livability. Moreover, complex urban morphology and high level of density add a further layer of difficulties on implementing NBS, particularly due to the main difficulty to find sufficient suitable locations with appropriate spatial and technical requirements for their implementation. In light of this, existing international frameworks and programmes for disaster risk reduction emphasise the need to develop and implement measures to reduce risks to cultural heritage. Despite this, opportunities for built heritage conservation to be integrated to the wider delivery of NBS in cities are rarely discussed and cultural heritage is still not receiving sufficient consideration in disaster risk management planning. The present research's primary aim is to identify all current knowledge in integrating NBS in historical areas. Scopus (http://scopus.com) was used to perform a search for papers or book chapters on NBS in historic centres. The different searched terms and combinations and the results obtained from the Scopus database in terms of resulted number of papers are reported in Table 1. Among the results from query only a few have been selected as really relevant, i.e. papers where the keywords are used in a pertinent way and that really have historic centres as their study object. The selected results obtained from Scopus were merged with some findings from grey literature, from European databases, to define a unique set of results. Research results have shown that most existing studies targeting historic centres mainly have focused on renewal and redevelopment, revalorisation cultural perception, and less attention on mitigation of natural disasters and the regeneration of degraded areas through the inclusion of new green components. There isn't currently real link between NBS, ecosystem services, urban challenges, and cultural heritage preservation. Studies around discussions of NBS in these contexts are limited to consideration of heritage conservation principles, from the perspective of building materials, and heritage values and ways in which nature can be used to contribute to the enhancement of the built heritage. Review of best practices on adaptation to climate change, within the Italian and European panorama, reveals a gap in terms of addressing specific measures for historic centres, evaluating their flexibility and effectiveness. In fact, most common climate-proof planning approaches consider the city expansion area. Those few studies that try to combine heritage preservation of historic centres with NBS are mainly strategic planning experiences elaborating a masterplan. In other cases, the attention focuses on building only, mainly addressing retrofitting solutions to reduce their energy consumption and related CO_2 emissions. Several experiences

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are carried out as participatory project based on a workshop activity with stakeholders on public spaces to improve climate change mitigation and adaptation measures. However, projects are still often implemented as standalone experiments in urban areas, scattered and uncoordinated throughout various policy levels and sectors. Finally, the analysed practices have not collected sufficient experiences about case studies of urban-architectural actions for the adaptation and regeneration of historical centres through NBS. This approach capture the nuance and specific challenges of greening individual built asset that are managed but fails to structure a greenery integration method in similar contexts. A step forward in research may be the investigation of different transformation scenarios of historic centres, coordinating across multiple levels, verifying their economic and constraint feasibility and real benefits in terms of risk reduction.

Searched terms	Occurrences	Selected
Q1: "nature-based solutions" and "heritage"	54	4
Q2: "nature-based solutions" and "historic"	35	11
Q3: "nature-based solutions" and "historic center" and "review"	48	7

Table 1.
Keywords and results from queries to SCOPUS (periods: all time)

The strategic role of urban policies for urban biodiversity

Annarita Lapenna, Maria Chiara Pastore***

In Italy, the relationship between national urban planning policies and the European Union's biodiversity policies is a relevant area of investigation to understand the success or failure of real processes to increase, enhance and protect biodiversity in an urban context.

Biodiversity, at risk due to climate change, represents a value to be protected and increased in order to guarantee life on our planet. In particular, urban biodiversity, while representing only a small proportion of the planet's global biodiversity, is of particular importance because of its proximity to the majority of the world's population. Urban biodiversity is of fundamental importance to the health, quality of life and economic and social potential of cities.

Starting with the 'European Green Deal', a number of European policies address the issue of urban biodiversity by indicating strategies and pathways. The 'EU Biodiversity Strategy for 2030' (adopted by the European Commission in 2020) aims to put Europe's biodiversity on the road to recovery by 2030 and includes specific actions and commitments. To monitor the implementation of the strategy, a system of actions trackers and dashboard targets has been created. There are more than 100 actions trackers to be achieved by 2030. Some are in progress, some are completed, and some are behind schedule. Among them, Action Trackers Nos. 51, 52 and 53 give indications on how member states are to draw up 'Urban Greening Plans' for cities of over 20,000 inhabitants. The plans should include measures to create accessible, biodiversity-rich urban forests, parks and gardens; urban farms; green roofs and walls; tree-lined avenues; urban meadows; and urban hedges. This should help to improve connections between green spaces, eliminate the use of pesticides, limit excessive mowing of urban green spaces and other practices harmful to biodiversity.

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Matching European indications, Italy's 'National Biodiversity Strategy 2030' was adopted in 2023 by the Ministry of the Environment and Energy Security following the indications of the relevant European policy. This strategy constitutes the reference document on the subject of biodiversity for the entire national territory. In particular, this policy also deals with urban biodiversity by reaffirming the goal of implementing ambitious urban greening plans. The Italian 'National Biodiversity Strategy 2030' affirms the importance of urban green systems in cities and nature-based solutions (NBS) to provide ecosystem services to citizens. Encouraging their implementation in the urban environment enables cities to increase biodiversity and system resilience and to adapt to climate change. Biodiversity can provide multiple benefits, such as improved air quality and social benefits.

These policies are procedural policies: they address the problem indirectly through instruments that postpone the substantive decision by delegating the process of implementation to the Member States. In particular, the two policies mentioned do not oblige the implementation of the proposed actions.

In this context, one of the relevant actions from the European Biodiversity Strategy 2030 is the proposed 'New Restoration Law' (NRL) on nature restoration. It is the first law at European level on these issues and it will have binding force. On 27 February 2024, the NRL was approved by the European Parliament pending final approval by the European Council before coming into force. The NRL is a key element of the EU Biodiversity Strategy that calls for binding targets to restore degraded ecosystems, particularly those with the greatest potential to capture and store carbon and to prevent and reduce the impact of natural catastrophes. A relevant aspect of this public bill is to include urban areas among the ecosystems to be restored by setting targets to be reached in 2030 and 2050 for green areas. In general, the NRL requires Member States to adopt national restoration plans within two years after the law comes into force. Obviously, these plans will have to include urban strategies and actions.

Fig. 1.
EU Urban Biodiversity Policies

Fig. 2.
Biodiversity and urban plans

The Urban Greening Plans of the EU Biodiversity Strategy For 2030 and the plans outlined in the Italian Strategy will need to align with the NRL's guidance on urban ecosystems. Until the NRL comes into force all greening or restoration plans defined by these policies will remain voluntary instruments.

In conclusion, it can be observed that despite the accordance of European and national strategies on the topic of biodiversity and in particular urban biodiversity, the implementation of these policies is difficult. On the one hand, there is a lack of substantive policy instruments regulating the implementation of actions that are essential and necessary for urban biodiversity; on the other hand, there is a lack of local policies capable of adapting European and national strategies to different territories. These local policies are necessary not only to specialise the superordinate policies but also to integrate other macro urban issues (e.g. mobility) with the issue of urban greenery and biodiversity. To date, few Italian cities adopt greening plans with biodiversity actions because the implementation of these plans is very difficult due to the lack of local urban policies capable of directing and managing these actions.

From practice to definitions
A NBS standardization comprehensive governance framework

Laura Passatore, Sara Di Lonardo*,**, Pasquale Capezzuto***, Giacomo Riccio***, Elisabetta Salvatori****, Francesca Bretzel*,***

Introduction

In the current time of climate crisis, urban sustainable development and regeneration are increasingly being supported by the implementation of Nature-Based Solution (NBS) which are promoted in policy agendas at various institutional levels (European Commission, 2015; IUCN, 2020; UNEA 2022). In general, NBS bring benefits to the whole ecosystem, in line with the one-health approach (Cohen-Shacham et al., 2016; WHO, 2022). Urban NBS are inherently multifunctional providing a wide range of services at the same time such as climate change mitigation and adaptation, air quality improvement, biodiversity conservation, enhanced social relations and aesthetic value of the site. For this reason, their implementation can have a significant impact on social inclusion and spatial justice. However, if NBS implementation is driven by growth ideology and neoliberal governance, it may reinforce dynamics of social exclusion and displacement (Sekulova et al., 2021).

To avoid these drawbacks, it is crucial to define a common governance approach that prioritises stakeholder engagement, trust, quality, and inclusivity in NBS implementation. The many ancillary benefits of NBS require an instrument for facilitating engagement with community stakeholders, such as residents, customers, and local regulators. Where site safety allows, NBS can even provide the opportunity to make a company's land available to the community, further connecting private entities and the greater public.

The first stage for NBS good governance is a common language, many urban governments and professionals state the lack of agreed definitions even prior to elaborate common benchmarks for the design and implementation of NBS. Furthermore, NBS is a comprehensive concept that encompasses a whole range of knowledge fields. In this context, standardization plays a key role in directing the application of NBS.

Clear and consistent terminology is essential also for an effective dialog with communities, which is one of the main instruments for addressing environmental justice in NBS implementation. Confusion over terminology can make communication challenging, especially when multiple terms are used to refer to the same concept.

Methods

For the above reasons, the European Committee for Standardization (CEN) through its technical commission "Sustainable cities and communities" (CEN/TC 465) constituted a working group (CEN/TC465/WG01, "Nature-Based Solutions Terminology") in 2023 with the intent to provide a standard terminology on NBS, building on the internationally consolidated definitions. WG01 is using existing documents on NBS from the European Commission, IUCN, UNEA, Network Nature, ICLEI, various H2020 projects and the body of scientific literature as a basis for the definitions.

The governance of the working group is overseen by UNI (Italian National Standardization Body) and CNR-IRET (Italian National Research Council, Research Institute on Terrestrial Ecosystems), in collaboration with UNE (Spanish National Standardization Body) and Tecnalia (Spain), this reflects a strategic initiative taken by southern European countries. Portugal, UK, Austria, and Sweden are supporting countries of the standard proposal.

Experts from Italy, France, UK, Portugal, Spain, Germany, Poland, and the Czech Republic are actively involved in drafting the standard.

Results

At the present time, the standard is already at the "working draft" stage. Next stages are "public enquiry", foreseen by May 2024 and "formal voted", foreseen by June 2025.

The latest draft includes terms strictly related to inclusivity and spatial justice, such as 'co-governance', 'co-creation', and 'collaborative approaches'. Other terms, such as 'ecosystem services', 'human health', 'human wellbeing', 'Nature's Contribution to People (NCP)', 'community garden', 'urban park', 'pocket garden', 'urban orchard/urban farming/ urban horticulture' are more broadly connected with environmental justice, but their evaluation and implementation have a significant impact on it.

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In the future, the vision of the technical commission "Sustainable cities and communities" is to work even further and assess the drafting of a coherent and coordinated set of holistic standards, to support stakeholders in the successful and fair implementation of NBS, including possible standards on management and on technical requirements. The technical standards on NBS implementation will spread the understanding of best practices and will provide key indicators to measure their success.

This work contributes to collective efforts to achieve Sustainable Development Goal 11 to make cities and human settlements inclusive, safe, resilient, and sustainable (United Nations, 2017).

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A Distributive Environmental Justice Index for supporting the prioritisation of Nature-based Solutions in Urban Greening Plans

*Jarumi Kato-Huerta, Chiara Cortinovis, Chiara Parretta, Davide Geneletti**

Environmental Justice (EJ) focuses on ensuring citizens' fair treatment and the equitable distribution of environmental goods and harms. While the EJ discourse has recently expanded to address misrecognition and societal participation issues, it still predominantly highlights distributional challenges due to environmental risks' spatial and temporal nature. In this context, new perspectives on distributive injustices draw attention to the uneven patterns of social, economic, and environmental benefits derived from urban greening strategies such as Nature-based Solutions (NbS) and green infrastructure.

Existing indicators and tools to monitor distributive justice issues often fall short of expectations as they assess environmental benefits solely in terms of proximity or physical access to green spaces. In doing so, they overlook the pathways that enable a just distribution of environmental benefits, including the provision of relevant ecosystem services that generate risk mitigation, recreational opportunities, and social cohesion. By recognising this limitation, our research proposes a Distributive Environmental Justice (DEJI) for urban areas that address three locally relevant aspects: the distribution of environmental risks, the uneven provision of green space benefits, and the location of disadvantaged communities. To test this index, we selected Las Palmas de Gran Canaria (Spain) as a case study to better understand the justice challenges faced in insular contexts. Through a content analysis of 17 planning and policy documents, we identified relevant EJ issues and goals, allowing for the compilation of appropriate data sources and selecting 11 indicators that represent the index's three components. After calculating individual indicators at the census tract level, we normalised input variables and aggregated them into three cumulative scores. The latter were then weighted by their relevance for final aggregation in the DEJI. The main results of our application revealed a complex city-wide pattern of distributive injustices influenced by the historical segregation of urban development in insular contexts.

Based on these results, we discuss how the DEJI could assist planners and policymakers in achieving specific goals, including those related to prioritising urban greening strategies. Considering the findings and insights gained through the testing application, we explore the applicability of DEJI in supporting the planning and implementation of NbS in a different territorial and policy context. Within the framework of the HE project SELINA, the city of Trento, Italy, is currently drafting an Urban Greening Plan as mandated by the European Biodiversity Strategy for 2030. Customising the DEJI index for Trento involves a preliminary analysis of local planning documents that could be further complemented with stakeholders' collaboration and community engagement initiatives, which are methods that could not be included in the original application of DEJI. The DEJI could support the drafting of the greening plan by integrating a distributive justice perspective in the selection of priorities and in the assessment of alternative options, allowing practitioners and decision-makers to investigate context-specific issues through pertinent indicators. Such enhanced application of the tool could consider demographic composition and detailed information on the quality of existing green infrastructure, but also incorporate relevant community needs. Appropriate indicators will be developed to capture the distribution of the benefits related to microclimate regulation and urban flood mitigation, which are the two main focuses of the plan. Beyond the planning phase, the DEJI could also serve as a monitoring tool, enabling regular assessments of implemented urban greening initiatives, including NbS.

In conclusion, the DEJI, initially developed for Las Palmas de Gran Canaria, could extend its applicability to guide the drafting and implementation of an urban greening plan in Trento. Integrating the DEJI into the set of indicators that support the drafting of urban greening plans required by the EU Biodiversity Strategy for 2030 could represent a significant step toward creating cities that prioritise environmental sustainability and ensure equitable benefits for all residents, particularly the most vulnerable ones.

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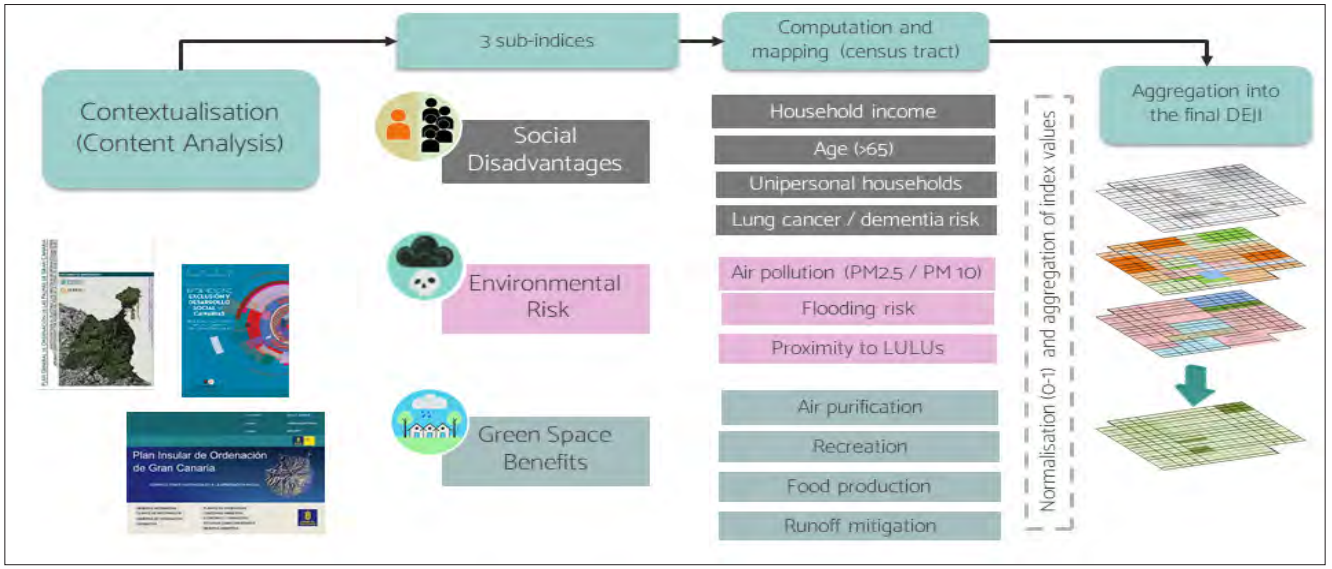

Fig. 1.
Method overview for the construction of the DEJI

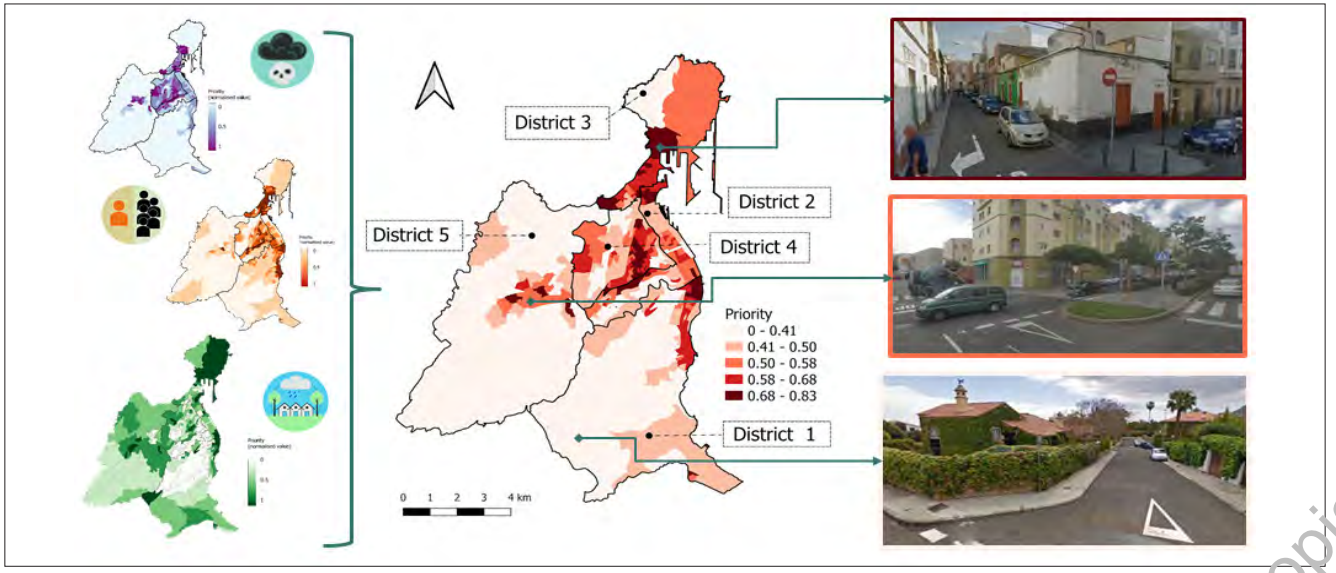

Fig. 2.
Aggregation of the three DEJI components and results showing very high, medium and low priority areas

Economic feasibility of NBS project in urban context
A preliminary evidence from the city of Milan

Francesca Torrieri, Alessandra Oppio**, Giulia Datola** and Giulia Tarantino****

Cities and societies are facing several issues and hazards concerning both the global phenomenon of climate change and local stresses such as heat islands, and flooding risks. These stresses affect social, economic, and environmental dimensions implying many threats from human health and well-being to depletion of natural resources, water, and energy (Faivre et al., 2017; Gomez et al., 2021; Davies et al., 2021).

Within this context, the implementation of Nature-Based Solutions (NBS) in the urban context as an urban regeneration strategy

has been suggested to address and solve several urban challenges due to their ability to address and provide multidimensional benefits related to environmental, social, and economic dimensions (European Commission, 2020). Furthermore, this implementation is also supported and encouraged by both international and national policies, such as the European Green Deal, the Sustainable Development Goals (SDGs) and the Italian Recovery and Resilience Plan (PNRR). More in detail, NBS can be described as "*solutions that are inspired and supported by nature, which are cost-effective, simultaneously pro- vide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes through locally adapted, resource-efficient and systemic interventions*" (European Commission, 2020).

In this sense, NBS have been proposed as a sustainable approach to supporting the transition of sustainable and resilient development in cities (Raymond et al., 2017). The objective is trying to maximize the interactions among nature, society, and the economy (Calfapietra et al., 2020; Sowińska-Świerkosz, B., & García, J., 2021); Dumitru, et al. 2021; Hanson et al., 2020; Cohen-Shacham et al., 2016).

However, despite the growing attention on this topic at different scales, several still unexplored aspects provide operational difficulties and criticalities in planning and managing NBS in the urban context (European Commission, 2020). Therefore, the planning and management of NBS hardly emerge as priorities of urban actions. This is mainly due to the endemic lack of economic resources and the difficulties found by urban planners in obtaining a positive economic return on NBS investments compared to other sectors. Moreover, in addition to the investment cost, their maintenance costs should be particularly onerous for public administrations, despite the capacity of NBS to create healthier, safer, and more resilient environments, as well as to give new values to poor quality or abandoned landscapes (Giordano et al., 2020). As underlined by the literature, these issues are related to the lack of assessing the economic value of NBS interventions in a quantitative way (Sowińska-Świerkosz, B., & García, J., 2021) only 10% of NBS evaluation studies concerns the economic values (Dumitru et al., 2020). Therefore, a quantitative evaluation of costs and benefits based on a Cost-Benefit Analysis can encourage local governments to promote NBS implementation in urban areas, underlining the positive total economic value (The World Bank 2023).

In this context, this study proposes the definition of a Spatial Economic Decision Support System (SDSS), which combines different methodologies to identify the most appropriate NBS according to the analysed urban context within its specific necessities and provide the cost-effective of the selected NBS (Pluchinotta et al., 2019; Torrieri and Rossitti, 2020; Sowińska-Świerkosz, B., and García, J.,2021).

Therefore, this contribution illustrates the testing of the proposed SDSS as an expert-oriented tool on a pilot case study of the city of Milan to support the choice of NBS alternative within the new Climate and Air Plan. In detail, the integrated evaluation framework and the application phases are described according to (1) the selection of the intervention area according to multidimensional indicators, (2) the identification of the most suitable NBS according to the specific environmental, social, and economic issues to solve, (3) implementation and maintenance costs estimation, (4) evaluation of multidimensional benefits. Therefore, the final evaluation output of the SDSS is represented by monetary and non-monetary values, which are useful to support the decision process related to NBS implementation in the urban context, according to the comprehensive and multidimensional information provided.

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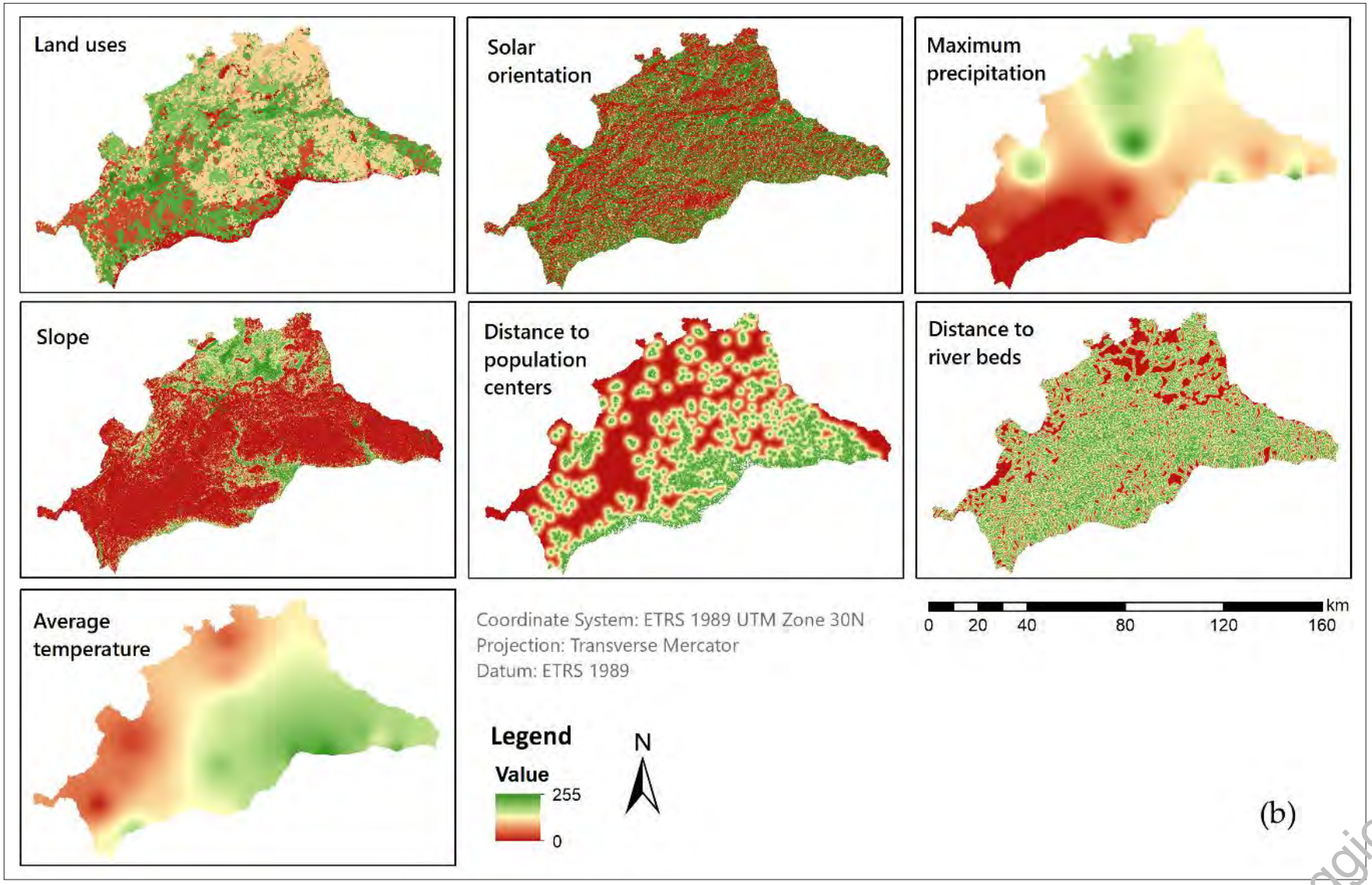

Fig. 1.
Reference for suitability maps for selecting the intervention area according to multidimensional aspects (Brom et al., 2023)

Mapping susceptibility to climate change effects and to spatial inequality for NBS planning and design

*Marialuce Stanganelli, Carlo Gerundo**

European cities are currently stressed by a rising number of intertwined issues and societal challenges, such as climate changes, quality of urban spaces, lack or unequal distribution of facilities, population decline. Nature Based Solutions (NBS) have gained increasing attention, providing a new perspective for addressing those urban issues, simultaneously producing environmental, social, and economic benefits. Traditional urban planning methods struggle to aadopt NBS as an effective measure for urban regeneration actions, leaving its application to urban design stage. This is mainly due to the lack of tools able to identify, at the urban planning scale, the expected location, and the spatial features of a NBS, according to the urban issues to be addressed.

The present contribution describes a methodology, developed in the framework of the NATSOIL PRIN project, which is aimed to identify which parts of a territory are more prone to suffering climate change effects and, at the same time, presents lack or unequal distribution of urban functions. The methodology is conceived as a tool that can process data, which are usually produced in the first stage of the municipal land use planning process, through different GIS-based susceptibility models. These models spatialize the phenomena and could be combined, for instance, with a Spatial multi-criteria decision analysis (SMCDA) in order to localize which parts of the analysed area more needy of NBS implementation and provide preliminary information about their spatial configuration and extent. In detail, the methodology is built by combining susceptibility models we tested in previous studies and research by applying them to the case study of Naples (Italy).

As regard spatial inequalities, the model proposed is the synthetic indexes method, since it allows to combine or aggregate a set of metrics (variables) representing the different components of a multidimensional phenomenon to be assessed. Therefore, different synthetic indexes were built and calculated in order to describe several urban phenomena that can directly influence the urban demand for NBS, such as social discomfort, spatial distribution of facilities or leisure activities. Four steps are essential for the implementation of such indexes: (1) definition of the phenomena to be described; (2) selection of metrics that best explain the phenomena, according to their relevance, validity, timeliness, availability, etc.; (3) standardisation of metrics, in order to make them comparable as they are often expressed in different units and may have positive or negative correlation with the phenomena described; (4) aggregation of metrics into the synthetic index through specific mathematical algorithms[1]. In order to evaluate the susceptibility to climate change, two different effects are taken into account: urban heat island and flooding. As a model to assess susceptibility to urban heat island, the Local Climate Zones system (LCZ) was adopted. LCZ is oriented to define morpho-typological (urban) surface classes that contribute to the creation of local climate conditions, mainly related to heat loads, based on a characteristic range of values of given parameters[2]. The most common approach to generate LCZ, named World Urban Database and Access Portals Tools (WUDAPT) protocol[3], consists of performing a supervised classification of Landsat satellite images using the random forest classification algorithm. Although WUDAPT protocol has been widely adopted to different contexts all over the world, it suffers from some limitations, such as low spatial resolution of its outputs and difficult interpretation at the small scale. Moreover, effects of third dimension on urban microclimate are totally neglected. Therefore, we propose to adopt a vector-based approach for LCZ identification, where urban indicators' min/max thresholds, derived by Stewart and Oke's classification system, are calibrated according to two parameters that are known to significantly influence heat storage, namely elevation above sea level and distance to water

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1 Stanganelli, M., Gerundo, C., Coppola, G., and Laino, G. (2023), Adaptive reuse of abandoned urban assets for cultural and social innovative development, in Resilient and Sustainable Cities, Elsevier.

2 Stewart, I.D., Oke, T.R. (2012), Local Climate Zones for Urban Temperature Studies, Bull Am Meteorol Soc, v. 93, n. 12, pp. 1879-1900.

3 World Urban Database and Access Portal Tools. https://www.wudapt.org. Access 20 Jan 2024.

bodies[4]. Flooding is the other significant effect of intense hydro-meteorological events due to climate change we considered. The susceptibility of an area to be flooded can be assessed as a function of the maximum flow depth that can occur during a flooding event with a given return period. To achieve this result, a hydrological model has to be set up, processing data that are not commonly handled by urban planners. Hence, our proposal is to identify flood-prone areas by adopting a model that relies on topographical and morphological data influencing the vulnerability to flooding. The model requires the identification of geomorphons, morphological terrain types, including standard elements of landscape, achievable by scanning a DEM[5], and it was already applied in previous studies dealing with the identification of flood-prone zones[6].

The susceptibility model proposed should be combined through Spatial Multi-Criteria Decision Analysis (SMCDA), which can facilitate decision-making by considering multiple objectives, stakeholders' preferences, and trade-offs associated with NBS implementation. Future steps of the research will deal with the identification of the most profitable aggregation and weighting procedure, the calibration of the methodology according to urban planning constraints and limitations, and verifying its replicability and scalability by applying it to different case studies.

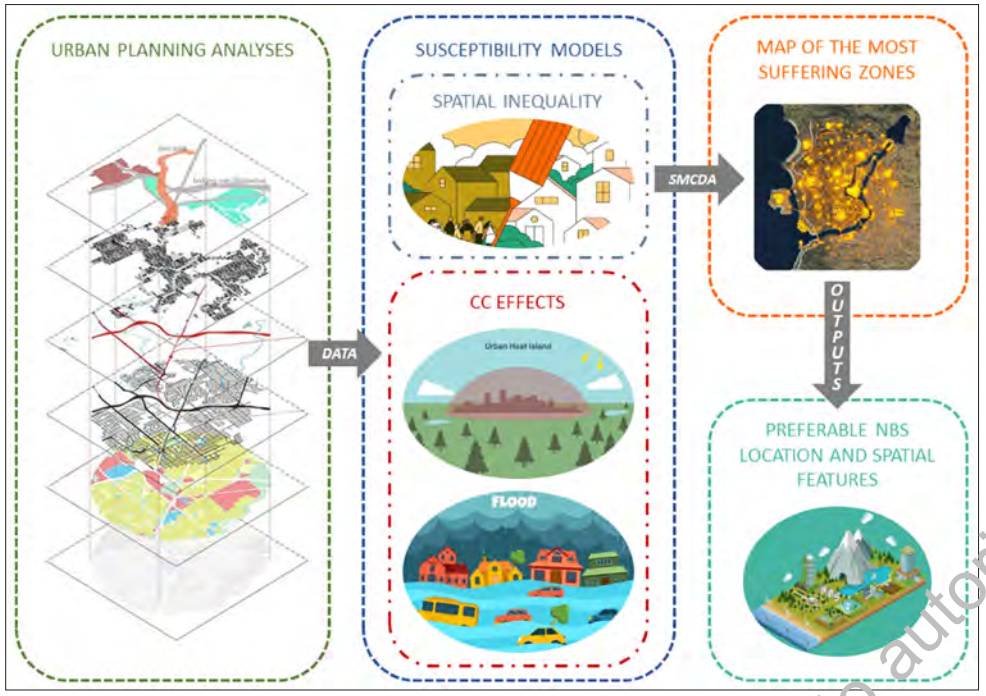

Fig. 1.
Methodological framework

[4] Gerundo, C., Stanganelli, M. (2024), A Methodological Approach to Improve the Definition of Local Climate Zones in Complex Morphological Contexts. Application to the Case Study of Naples Metropolitan Area, in International Conference on Innovation in Urban and Regional Planning, Springer.

[5] Jasiewicz, J., Stepinski, T.F. (2013), Geomorphons – a pattern recognition approach to classification and mapping of landforms, Geomorphology, v. 182, pp. 147-156.

[6] Ghahraman, K., Nagy, B., Nooshin Nokhandan, F. (2023), Flood-Prone Zones of Meandering Rivers: Machine Learning Approach and Considering the Role of Morphology (Kashkan River, Western Iran), Geosciences (Basel), v. 13, n. 9, p. 267.

Quantifying the benefits and spatial equity of Nature-based solutions in urban contexts

Nicoletta Denaro, Daniele La Rosa***

The concept of nature-based solutions (NBSs) includes a variety of actions ranging from conservation, management and restoration of natural or modified ecosystems. Through the set of ecosystem services provided, NBSs are considered sustainable solutions that can simultaneously deliver multiple ecological, social and economic benefits to society and the environment. Using NBSs and the multi-benefits provided by them, it is therefore possible to reduce disaster risks and address simultaneously several requirements, related to climate change adaptation, biodiversity loss, improvement of human health and well-being. Over the last decades, the interest related to NBSs has grown, as reflected by a growing number of studies and applied research. In order to integrate nature-based solutions into urban planning processes and governance policies, it is essential to assess their potential benefits, co-benefits and disservices to support effective decision making of planning processes.
Ecological and economic approaches are two essential ways to transpose theoretical benefits into actual implementations.

Concerning economic assessment framework, the tools generally used are cost-benefit analysis, multi-criteria analysis, and the quantification of the costs of avoided damages, while ecological approaches integrate indicators of ecosystem service benefits in order to quantify the effectiveness of the NBS.

A preliminary evaluation of the multifunctional benefits of NBSs is therefore a fundamental step to identify spatial configuration of NBSs can maximise these benefits. Planning where NBSs can be located is also necessary in order to optimise their efficiency, increasing the sustainability of urban contexts. The potential of NBSs to delivered multi-benefits can be also evaluated in terms of their spatial distribution, different scenarios of distribution of NBSs, across various spatial scales affect differently and generate different effects. Furthermore, the benefits generated by NBSs have to do with spatial justice issues, related to equal distribution of goods and services in order to guarantee equal opportunities to access and use these resources. This is because benefits can be generated only in a portion of cities, thus limiting the potential numbers of beneficiaries and this produce or increase spatial injustice. However, while multifunctional benefits of NBSs have been widely investigated and theorised, their evaluation and quantification is still an open field of research, especially when trying to take into account different type of benefits at the same time and addressing spatial justice issues.

This research reports the first results of a review on existing methodologies developed to evaluate the benefits of NBSs under multiple approaches, to understand the state of art of the research, we first conduct a literature review, various terms were combined to create a database of papers.

We subsequently examined the relevance of these papers by screening article titles, keywords and abstracts, building up to a limited set of articles specifically about nature-based solutions and their benefits assessment; consequently, excluding review articles and documents in which NBSs and benefits were marginal theme or generically referred. In the second phase we have defined as criteria of selection the different types of methodologies to assess NBS benefits: qualitative/quantitative evaluation of benefits, economic evaluation, spatially explicit evaluation of benefits and evaluation approach with spatial equity aspects. Each paper was reviewed according to the above-mentioned criteria, looking for the presence of at least one of the assessments approaches. Frameworks and approaches to benefits' assessment have been summarized to specifically highlight methods that focus on social equity and how these benefits can be distributed and enjoyed by residents and different local subjects.

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Special Workshop

Inclusive public spaces for water cities facing climate change

Coordinators
Tullia Valeria Di Giacomo
Giulia Luciani
Pedro Ressano García

Enhancing Urban Planning with Geographic Information System and Remote Sensing: A Case Study of Gdansk City, Poland, for Multi-functional Green and Blue Infrastructure Suitability Map

Hussein Annan, Lucyna Nyka***

Green and blue infrastructure (GBI) are essential for enhancing urban resilience, biodiversity, and ecosystem services. Remote Sensing (RS) and Geographic Information System (GIS) tools have the ability to gather a wide range of data related to land cover, vegetation, water resources, and other factors, spanning various scales and timeframes. Due to the dynamic and complex nature of urban planning, it becomes crucial to integrate diverse geographical and geo-statistical data. This integration enables informed decision-making and promotes sustainable development. Hence, GIS and RS capabilities are needed to visualize, analyze, and plan GBI that suites inhabitants, contributes to ecosystem services and is resilient to climate change. In this instance, inclusion means ensuring that GBI is accessible, equitable, and open to all urban residents, especially the most vulnerable and excluded populations. Additionally, the maintenance and management of GBI should be community-focused, engaging local residents in its upkeep and ensuring its long-term sustainability. The goal of this paper is to present a framework for developing multi-functional GBI suitability map that can enhance urban planning with GIS and RS, using the city of Gdańsk, Poland, as a case study. Multi-functional in this context, means that implementing the GBI has many benefits such as:. stormwater management, climate change mitigation, increase of property value, tourism and recreation, job creation, health and well-being.

This research has merged different methods. To achieve the target, qualitative and quantitative data have been combined. For that, a comprehensive scientific review was undertaken to analyze the relevant factors and importance of both spatial and non-spatial layers that impact the planning of GBI. This review involved an examination of academic articles, books, and other scholarly sources. On the other hand, different data, such as elevation, slope, soil, geology, land use and cover, satellite imagery, and others, have been processed in GIS software. After that, the data has been reclassified according to the extent of importance. Higher values have been given for high important features of each layer. Then, the Analytic Hierarchy Process (AHP) method was used to assign weights through complex decisions. So, the analyzed layers have been assigned weights that are used in the multiplication of the layers.

For the Gdańsk case study, the research aligns to the aim of the EU project titled "Gdansk Sustainable Infrastructure" which goals to co-finance municipal infrastructure in the City of Gdansk, Poland. The proposed financing will contribute to improving public services and fostering economic, environmental, and social be©nefits.

The resultant GBI network suitability map revealed the optimal sites for enhancing the GBI within the urban fabric of Gdansk City. Images analyzing the Normalized Difference Vegetation Index (NDVI) and Normalized Difference Water Index (NDWI) showed that the city has many green spaces like forests, parks, gardens, rivers, and wetlands. These areas hold great significance for both the environment and the residents inhabiting the region. However, overlaying the suitability map with the buildings layer highlighted the existing and potential threats to the GBI, such as fragmentation due to urban sprawl, degradation due to pollution and invasive species, and unequal distribution due to socio-economic factors. The map thus provided a valuable tool for identifying the areas that need more attention and intervention to conserve and restore the GBI, as well as the areas that offer more opportunities and benefits for expanding and connecting the GBI.

The research's findings may be limited due to the utilization of a chosen number of layers. However, there is room for further enhancement in future studies by incorporating additional layers, which can impact the planning of GBI. This expansion would result in improved accuracy and multi-functionality of the proposed suitability maps. The integration of layers on suitability maps becomes a milestone allowing for further stages of research on the potential of integration of artificial intelligence to assist in the workflow processes and enhance overall outcomes in GBI design through optimization.

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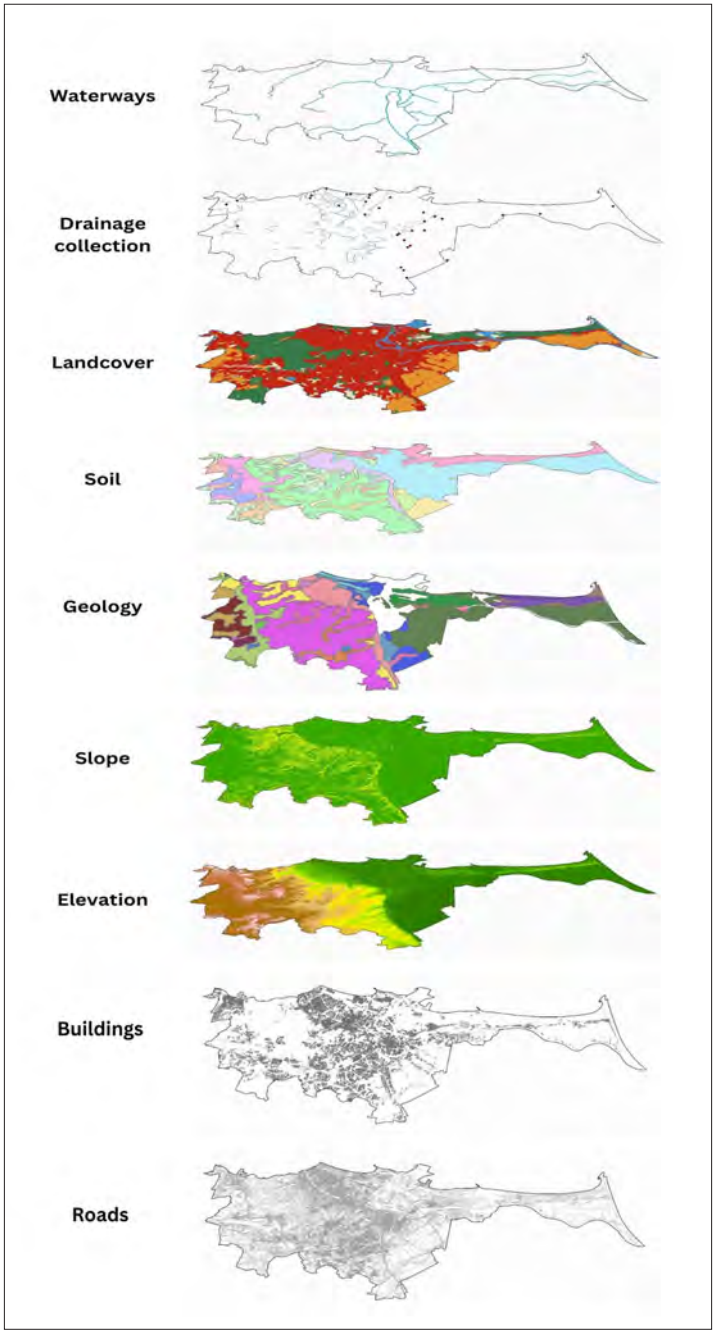

Fig. 1.
Overlay layers utilized for pre-analysis purposes

Towards an Inclusive and Resilient Flood Protection Planning: A Comprehensive Review of the InVEST's Urban Flood Risk Mitigation Model, Research Trends and Future Directions

Anahita Azadgar, Lucyna Nyka***

In the face of escalating impacts of climate change, urban areas encounter urgent challenges in mitigating flood risks while ensuring the well-being of all citizens. The Integrated Valuation of Ecosystem Services and Trade-offs (InVEST) software suite emerges as a crucial tool for addressing these challenges by assessing the value of natural resources crucial for sustaining human life. Among its notable contributions is the introduction of the Urban Flood Risk Mitigation (UFRM) model in 2019, aimed at reducing stormwater runoff and creating spaces with high water retention capacity. Rooted in the principles of ecosystem services and trade-offs, the UFRM model holds promise as a foundation for socially inclusive and resilient flood protection planning. Recognizing the growing importance of flood-sensitive urban planning and the novelty of the UFRM model, this study embarks on a comprehensive review of existing research utilizing UFRM. The objectives range from extracting current research trends and identifying future directions to pinpointing research gaps and proposing enhancement strategies for the UFRM model. By delving into the knowledge generated by prior studies, this review seeks to strengthen our understanding of urban flood risk mitigation and pave the way for more effective and inclusive strategies. This article employed a systematic and quantitative literature review of research papers published by scientific journals. The search for related articles was conducted in February 2024 on two online platforms: Scinapse and Google Scholar. On Scinapse, three different advanced filters were utilized. The first included papers matching the keywords "Integrated Evaluation of Ecosystem Services and Tradeoffs." Secondly, papers meeting any of the keywords "flood," "flooding," and "floods" were included. Lastly, another filter was applied, limiting papers to those published between 2019 and 2024. Several articles were obtained through this procedure, and their most prominent features are demonstrated in Figure 1. As observed, over time, the UFRM model has gained more attention, with most case studies situated in Italy. While studies such as Li et al. (2023) and Quagliolo et al. (2023) underscore the effectiveness of nature-based solutions in urban flood regulation, further exploration into the spatial dynamics of ecosystem service provision and demand, especially concerning flood regulation, is needed. Future research could go deeper into optimizing landscape patterns to maximize flood mitigation benefits. Additionally, while Ma et al. (2022) and Quagliolo, Comino & Pezzoli (2021) offer valuable insights into specific green infrastructure interventions like intercropped bamboo forests and green roofs, there is a gap in understanding the trade-offs and synergies among different ecosystem services, particularly in the context of flood mitigation. Future studies could explore integrated approaches that consider multiple ecosystem services simultaneously to enhance urban resilience. Furthermore, as highlighted by Egegård et al. (2024), there is growing recognition of the role of green spaces in climate-proofing cities against floods, suggesting a need for research that integrates nature-based solutions into broader urban climate change adaptation strategies within the framework of InVEST's flood mitigation model. The need to integrate urban elements into the UFRM evaluation system, such as urbanization patterns and infrastructure development plans, emerges as a priority. By tailoring solutions to the unique characteristics of each part of the city, more effective and socially inclusive flood protection strategies can be devised. Moreover, enhancing the performance and compatibility of the UFRM model with principles of inclusive urban planning is crucial, ensuring that flood protection measures benefit all citizens equitably. An essential observation drawn from current research on flood mitigation and naturebased solutions revolves around the absence of tools facilitating the optimization of flood protection strategies at urban scales. While the UFRM model serves as a mighty instrument for identifying areas of concern, it falls short of providing actionable solutions to address these issues. Therefore, future research endeavors may benefit from exploring the integration of UFRM with complementary models capable of generating optimized solutions tailored to diverse criteria, specifically benchmarks involving the socio-economic attributes of the challenging areas in terms of flood resiliency. Through interdisciplinary collaboration and stakeholder engagement, cities can leverage the power of the InVEST software suite and embrace principles of inclusive urban planning to build resilient and equitable communities in the face of climate change-induced flood risks.

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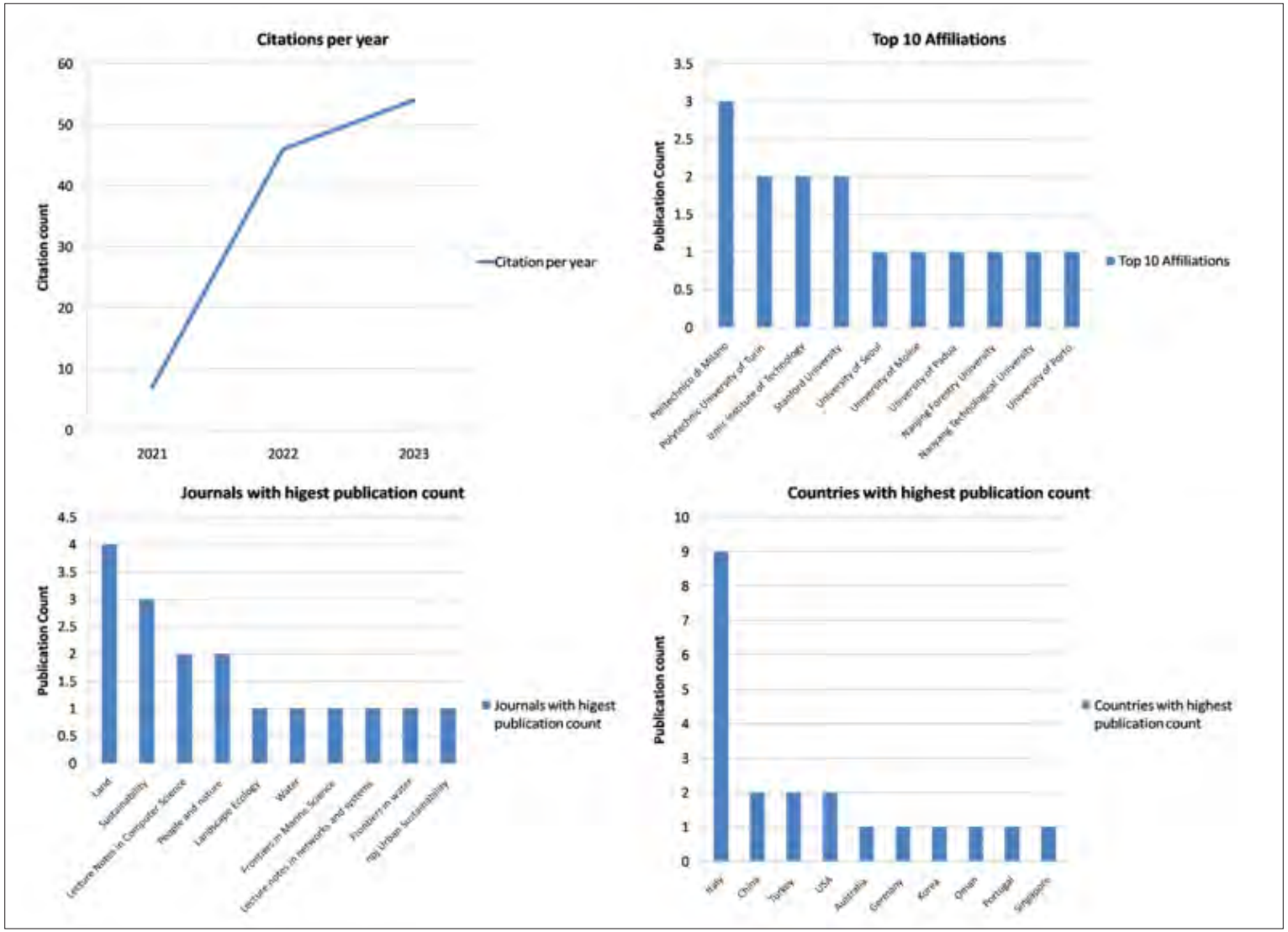

Fig. 1.
Charts depicting the features of different publications regarding the InVEST software's flood mitigation model based on data obtained from Scinapse. Source: Authors

Ecological and interdisciplinary micro-narratives

*Isabel Barbas**

Taking into account the enormous challenges that contemporary society presents to us, namely the climate and ecological crisis associated with globalization and cultural and technological accelerationism with clear impacts on the construction of our cities (Carlos Fortuna), creating not only alienation but also profound social inequalities, and environmental imbalances in construction structures that affect the quality of life of the inhabitants and condition the ecology and balance of micro-territories that build the diversity of the urban body (Nan Ellin, Zygmunt Bauman), we propose to analyse how **cultural installations and spatial interventions of an artistic nature in the public spaces of water-cities** can contribute to an interdisciplinary reading — necessary to reflect on current society problems — whose global expression is increasingly evident in climate change, which despite being evident, is still barely 'felt' and problematized by "urbanites" — those who live in the city's public space on a daily basis (Richard Sennett). This type of ephemeral installations translates and problematize the relationship of 'transscalarity', that is, the intimate relationship that is established between the 'micro' and 'macro' space(s): a relationship that constructs the spatiality's of current urban-architectural-social environments and their glaring inequalities and 'concealments' (Andrés Jaque). Understanding this relationship is fundamental to reflect on the urban socio-spatial fabric and recover its democratic dimension — the encounter with the 'other (s)'. In other words, to "open the city" (Sennett) to plural, critical and innovative reflections.

Thus, through the "friction" that 'artistic objects' produce in the socio-spatial environment (Olafur Eliasson) in which they intervene contaminating it — as if they were a kind of 'virus' or "hyper-objects" (Timothy Morton) — alternative 'micronarratives' can be constructed to disestablished the grand narrative [of consumer society] that has been destroying the space of the polis: the common space of relationships between individuals and between them and the 'nature' of the space, particularly in the space of cities characterized by river or sea fronts. 'Water' is understood here as a symbol of the planet's 'sustainability' but also as a metaphor for the current 'liquid society' in which we live (Bauman) submerged in the new 'liquid condition' that affects all spheres of our society and conviviality.

Taking as an example some 'critical spatial practices' (Jane Rendell) — namely the *COSMO* project by Andrés Jaque [translating new forms of relationship with water, sustainability, pollution, community and internet] and the Ice Watch project by Olafur Eliasson [alerting to the climate change through direct contact between urbanites and Arctic ice caps that are melting in public spaces of reference in European cities — we will see how these practices can involve individuals in a reflection that promotes, through the body and the symbolic phenomenological relationship (Gaston Bachelard), the interaction and emancipation of spectators-urbanites (Jacques Rancière), making them aware of the need to 'act', even if on a 'micro' scale, and above all, on the macro-territory that is faced with the emergence of climate and socio-spatial changes. As an example, see the projects we mention above. Ice Watch project (2014-19), by delimiting a meeting space in a circle, with ice caps — symbolically 'fragile' due to the melting of ice masses "around a fire" (Olafur) — the artist draws attention to the need to reach an international commitment agreement regarding the adoption of ecological measures to safeguard the planet. The direct and tangible experience of melting arctic ice aesthetically creates an environment that goes from solid to liquid, marking, like a clock, the passage of time. Through experience/participation in the artistic phenomenon, Olafur raises awareness [in a different way to the mass media that violate our daily lives by desensitizing us] to the need for each one, and everyone in general, to act actively, contributing to the mitigation of the problem. The COSMO project (2015), by Andrés Jaque, also acts on the socio-spatial fabric of the 'urban environment' with 'water' as its main material. The installation carried out in New York sensitized urbanites to the creation of new ways of using and relating to water, particularly with the issues of scarcity, purity, and toxicity, relating this to climate change on a planetary scale. COSMO is a mobile device that purifies water using algae,

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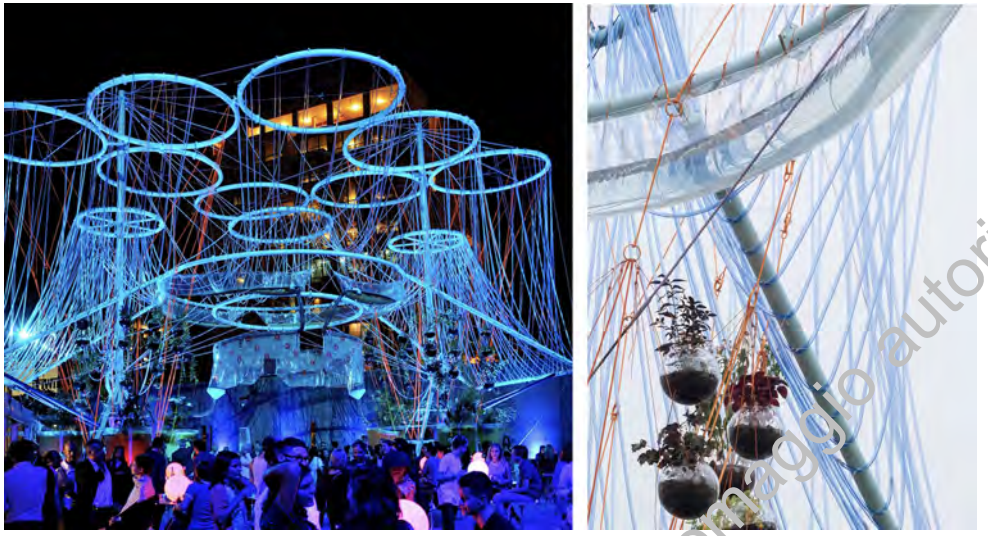
Fig. 1.
Installation Ice Watch, Olafur Eliasson. First line: front of the Tate Modern in London. Second line: City Hall of Copenhagen, 2014-19.

Fig. 2.
Installation COSMO, Andrés Jaque. Night view/ detail, New York, MoMA PS1, YAP, 2015.

making it phosphorescent with each purification cycle. It is, therefore, also a scenic and atmospheric structure [creates a luminescent microclimate] that can be replicated by anyone anywhere on the planet [to do so, simply access the project's website and create something similar] especially in places where water is scarce or is polluted.

In short, through creativity (Sennett) and art interventions, it will be possible to find [multifaceted] sustainable and ecological solutions. These artistic proposals, in equal measure, also intend to return the city to its inhabitants, renewing our "right to the city" (Lefebvre), that is, the right to celebration, to play, to the free appropriation of common space, and above all, acting in an ecological-creative and conscious way.



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Climate sensitive transformations for resilient and inclusive waterfront urban territories

Lucyna Nyka, Justyna Borucka*, Jakub Szczepański**

Climate change consequences engender pressure for sustainable solutions in urban waterfront areas. Many of them demand transformation from brownfields into climate resilient, green and inclusive urban spaces. To respond to this need diversified concepts have been proposed, such as sponge city, blue-green urbanism, water urbanism or water-sensitive urban design. Despite geographical and local differences, they are all directed towards recognising the role of water in urban structures, developing effective water-retention systems, reducing grey in favour of green infrastructure, preventing flooding, enhancing biodiversity and improving the ecological quality of urban landscapes. Waterfronts are on the frontline of these efforts. Along with securing more room for water and designing water-adaptive public spaces, policymakers, urban planners and architects focus on developing waterfront areas as vibrant urban environments that are attractive to people. To investigate the paths toward regenerative and sustainable transformation, Gdańsk was selected as one of six cities in Europe, to serve as a laboratory field for developing innovative architectural, urban and landscape sustainable open solutions, within the framework of the Horizon 2020 project 'SOS Climate Waterfront'. 'SOS Climate Waterfront' is an interdisciplinary project that aimed to investigate Europe's waterfront struggling with climate change. The project brings together different disciplines to create new strategies for sustainable solutions for infrastructure and urban planning in Europe.

The objective of the proposed research is to give insights how by using research by design method, scenario planning practices, processing environmental data and water management models, and importantly – bridging the gaps between many disciplines, the procedural schemes for urban transformation were developed. Another objective is to indicate the link how climate sensitive waterfront transformations contribute to inclusiveness of vulnerable communities living next to the brownfields. Several intensive workshops were held in Gdańsk as a part of the international SOS Climate Waterfront project. This research activities were organized and coordinated by Gdańsk Tech a in cooperation with Mucipality of Gdańsk. The main goal of the reserach enquiries was to develop solutions for selected waterfront locations, exchange ideas and to present forward-looking solutions to problem areas. International experts, city representatives, scientists, doctorate and master students were working together, gaining new perspectives, discussing new approaches and creating masterplans for selected areas. An important aspect of the workshop is its international character, with participants from Portugal, Italy, Greece, The Netherlands, Sweden, and Poland.

As the outcome of the study, the authors indicate that the existing hard land-water interfaces tend to be transformed into soft transition zones with new types of blue public spaces with different relationships to water. Proposed solutions include barrier landscape structures, water retention parks, regenerated marshlands, floating islands, amphibious territories, soft porous blue spaces on the land-water boundary and architecture adjustable to different levels of water. The results demonstrate solutions that are equally focused on hydrological performance, environmental concerns, and social and urban benefits. Synergies were identified between public space design, flood protection measures, and climate adaptation schemes. Finally, the findings highlight the need to verify the existing planning regulations and make them more flexible and effective in guiding the sustainable waterfront design processes. The research activities taking place in Gdansk was preceded by workshops and conferences in other cities participating in the project: Lisbon, Thessaloniki, Rome, Stockholm and Gdansk, and brought innovative solutions for land-water territories, taking into account climate change and aspects of a resilient city.

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Fig. 1.
Creative solution for Waterfront area in Gdansk - design concept source: SOS Climate Waterfront workshop Gdańsk 2022

Fig. 2.
Areas of intervention for Waterfront in Gdansk - design concept source: SOS Climate Waterfront workshop Gdańsk 2022

Temporary cultural interventions in urban public spaces: sustainable design approaches for resilient communities in climate sensitive areas

*Natalia Chrysikou, Konstantinos Sakantamis**

Outdoor urban public spaces are vulnerable in the context of climate change. The effects of climate change, exasperating the frequency of urban heat islands (UHI), can turn open-air spaces of cities into unusable, uncomfortable, and sometimes, even dangerous places for the life of the citizens. At the same time, these effects have a great impact on the sustainability of cultural events in urban public spaces, shrinking or even threatening their availability, thus, highlighting the cultural dimension of the climate crisis and the call for adaptive cultural-urban transformations.

Ephemeral cultural events in open public spaces contribute to the promotion of cultural expression, participation and inclusion, and the enhancement of lived experience, animating public space and public life. The current study builds upon the authors' previously published research, which looked into the Covid-19 experience, exploring bottom-up and top-down adaptive spatial transformations of urban landscapes that sought to enhance the urban experience and compensate for the lack of space, contact, and entertainment. Both previous and current studies draw upon the 2013 Hangzhou Declaration, which places culture at the heart of sustainable development policies recognising its capacity to strengthen resilience and to respond to current and future climate change challenges. Previous findings highlighted that cultural participation, access to open, social, and vibrant public spaces, and the preservation of experientially rich urban environments are essential prerequisites for creating resilient cities. They underlined the requirement for cultural actions that develop environmentally conscious and climate-positive/adaptive approaches in order to maintain their liveability, their dynamism as 'social condensers' and 'urban animators', and their active role in raising awareness about climate change.

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What can sustainable design do for culture? How can culture be environmentally attractive? The present study researches the environmental tactics and heuristics of temporary cultural interventions in outdoor public spaces, in climate-sensitive areas. More specifically, it focuses on small-medium ephemeral structures that are intended to host cultural activities and events, promote cultural participation and maintain urban vibrancy in times of climate crisis. The interest in ephemeral interventions in urban public spaces, although not a new field, is reinforced here by the fact that outdoor civic spaces are under pressure for immediate climate-responsive solutions and improvements, while at the same time, permanent urban strategies require a long time to implement. The application of temporary installations in urban spaces has already been used as a tool for rapidly applicable and responsive solutions to specific problems, either due to urgent conditions that arise (e.g. inflatable hospital for covid-19 / TecnoDimension, Pachuca, Mexico, 2020) or until permanent interventions are completed (e.g. "Air Tree" / Ecosistema Urbano, ephemeral climate regulators of outdoor urban space, Madrid, 2007 and Shanghai, 2010). The ephemeral may even act as an urban stimulus and inspirational ground for permanent interventions (e.g. "Escaravox" / Andrés Jaque Arquitectos, an urban activator for the courtyards of the Matadero Cultural Centre, Madrid, 2014). The design of temporary interventions that are climate-responsive and adaptive is not only a challenging field for culture, but also a requirement of urgent environmental and climatic conditions in order for cultural events to sustain their qualitative context and their active role in the urban fabric.

Through a case studies' analysis, built on temporary cultural installations in outdoor urban spaces that develop design strategies to address climate parameters, the research explores emerging design tools for climate-sensitive cultural interventions. Drawing on records and interpretative information derived from online architectural and urban design platforms, the study is centred around the identification of adaptive design tools that mitigate specific effects of climate change; i.e. rising temperatures and UHI phenomenon. The analysis focuses on strategies that reduce solar radiation by shading, treat the existing soils to decrease the absorption of solar radiation and, finally, favour wind currents to control temperature, humidity and air quality. The research concludes upon reversible/applicable spatial arrangements and tools for local heat reduction and shines a light on the new qualities of public spaces stem from them. The results highlight the potential of cultural urban interventions to shape sustainable microclimatic conditions and improve urban outdoor comfort through temporary thermal retrofitting techniques that can be exported to environments with similar requirements. These 'cultural and urban retreats' add value to progressively climate-degraded open urban spaces, enrich urban habitation and sustain participation, inclusivity and the eventfulness of a place.

Fig. 1.
Case studies: S-M size installations.

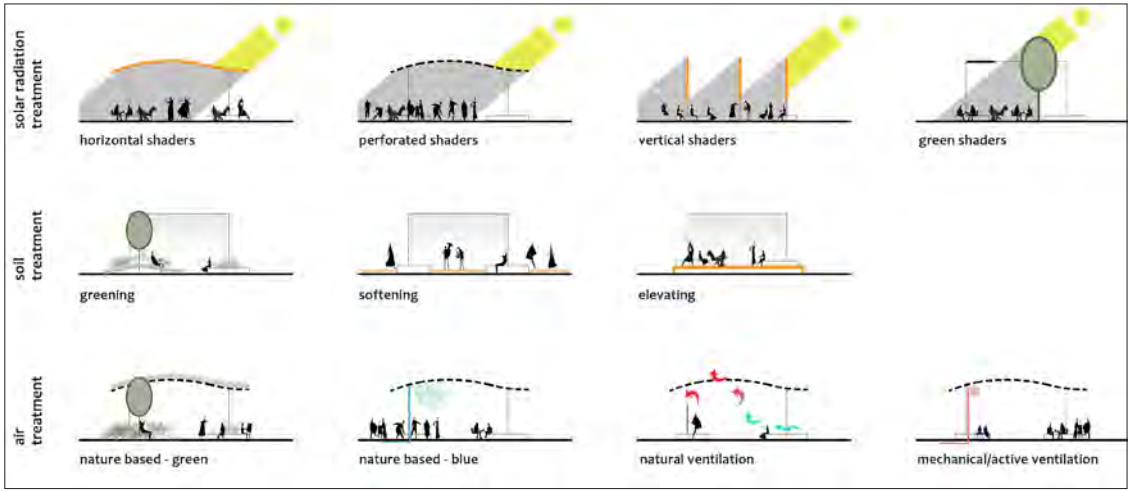

Fig. 2.
Local heat reduction techniques for cultural urban interventions.

Rome waterfronts: Heritage, water landscapes and vulnerability Searching new blue and green connections

*Tullia Valeria Di Giacomo, Claudia Mattogno, Bruno Monardo**

Over time the city of Rome has established enduring relationships with the hydrographic network. Its structuring role shaped the territory until the spread of urbanization in the second half of the twentieth century. Although some uses remain a constant in many spaces, contrary to the past, today water no longer plays the important role it should deserve since its presence is hidden by senseless landfill works and dense urbanization. Nowadays, the permanence of precious abandoned water resources is recalling new awareness in addressing contemporary threats and weaknesses related to environmental crises. The climate change phenomenon requires us to adopt new resilience and mitigation strategies. The challenges are mostly environmental except for the societal demand of citizen relationships with nature and adjacent public space for collective enjoyment: it's therefore required to rediscover the qualitative role of water resources as a characterizing element of the landscape, as a contrast to land consumption, as a tool for enhancing the community.

The field of action starts again from the strategic approach of the Master Plan of the city of Rome, approved in 2008 with the new idea of a polycentric city surrounded by a green wheel and a system of wedge-shaped open spaces which contribute to environmental regeneration but also as spatial conformation and delimitation of edges open towards the territory. The research activity has meant at converting current challenges in a chance to reconnect the Eternal city with the presence of water, seeking for ideas to address natural and anthropic pressures of urban waterfronts and rehabilitate the river as the backbone of the urban environment. Where the archaeological ruins are still present, sensitive interventions allow to re-establish the links with the surrounding landscape, often disqualified, and the water resource such as rivers, lakes and the coastline.

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UNESCO strategies intertwine this approach boosting for the implementation of a new generation of public policies identifying and protecting the historic layering and balance of cultural and natural values (1). Cities, while representing the most vulnerable areas, play a central role acting as physical component able to integrate innovative models to reduce the impact of climate change. In that sense, the urban fabric is a living organism, which must necessarily address the inclusiveness and well-being of residents taking into consideration public spaces where to develop revitalization programs. In addition to the ordinary planning effort, innovative approaches as 'River Contracts' are showing positive results in supporting sensitive and bottom-up design (2) linking the sources with the sea, the urban fabrics with the watercourses that pass by, the cultural heritage traces with the green network. Through participatory tools like River Contracts, we can imagine green paths to re-establish significant links, open viewpoints making the river more visible, re-naturalize the smaller hydrographical network and create a blue basin system to counteract floods, increase rains and tackle coastal erosion. In parallel communities can enjoy safer and liveable public open spaces where cultural heritage and environmental values enrich the daily life of the inhabitants.

The EU Climate Change Adaptation Strategy (3) proposes measures to raise awareness on adaptation. Adaptation strategies are needed to anticipate the negative effects of climate changes and to prevent or reduce damages to the urban environment. Rome waterfronts, the Tyrrhenian coast, the two major rivers Tiber and Aniene, and the dense network of watercourses will stress, under the framework of climate change, the concept of margin as a limit or border towards a dimension of openness to the parts that imply mutual contamination and transformation (4; 5; 6). Valuable elements such as the rivers Tiber and Aniene, partly degraded by too invasive vegetation and improper use of the banks, represent a fertile opportunity to implement adaptation measures which bring the city closer to these natural territories.

Fig. 1.
The Tiber River crossing the city of Rome

Fig. 2.
The Aniene River crossing the city of Rome

The Eternal City is called to recover a broader vision to address climate-related stress factors and enhance urban territories transforming the main difficulty when dealing with heritage and climate - the number of competences involved - into a value of transdisciplinary integration to contrast urban vulnerability to climate change.

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A roadmap proposal for the conservation of waterfront heritage against the impacts of climate change as a tool for sustainable development policy

Anna Rubczak, Elif Mihcioglu**, Dorota Kamrowska-Załuska****

Water is a fundamental element shaping urban landscapes, influencing city layouts with waterfronts, ports, and river valleys. Historic districts, often UNESCO World Heritage sites, are vulnerable to climate change, necessitating swift protective and revitalization strategies. Once integral to their initial purposes, these waterfront areas necessitate a clear definition of their positions and spatial connections within their respective surroundings. Whether it be natural or cultural, heritage stands as a crucial urban asset. This study aims to formulate a comprehensive urban roadmap, covering a diverse range of monuments and sites, including intangible heritage. As climate change effects continue to occur, securing and preserving these historically significant sites becomes an increasingly urgent endeavour. This strategic plan is designed to guide those interested in incorporating sustainability objectives and addressing climate change within the context of waterfront cultural heritage. The proposed roadmap comprises six crucial phases.

The initial phase is associated with the localization and qualification of the site. Understanding the precise locations of these heritage sites and their spatial relations within their contexts is critical. Understanding the context of a location is the basis for effective strategies for its protection, conservation, and architectural adaptation. We can use traditional modelling CAD or GIS tools to visualize localization and qualification. In some cases, an open-source LiDAR tool can be useful.

The second stage is related to a comprehensive diagnosis of the problem. Different countries are experiencing different effects of climate change, which require interdisciplinary consultations in relevant fields. The diagnosis may require adjustments as new information emerges during the implementation phase. You may need support with parametric modelling tools such as Dynamo, Revit, Autodesk, or Grasshopper and its plugins such as Kangaroo or Ladybug, Galapagos, and Octopus, which can be used together with tools such as Radiance or dynamic tools such as DIVA. One can observe an increasing role of immersive technologies, AR, VR, and 3D scanning. Urban scale focuses on urban data analytics, and design-planning tools such as ArcGIS or QGIS, often in connection with new data sources such as Lidar or drone data. Those tools are often analyzed using AI-based tools: deep learning neural networks, machine learning algorithms, fuzzy logic, or living structures.

In the third stage - stakeholders and funds, whether dealing with cases at the urban or architectural scale, securing the participation and approval of all stakeholders is crucial. It can be supported by mapping tools such as internet boards or visualization platforms for mapping systems and better understanding relationships such as Kumu, Tableau, or PowerBI. The ownership structure of the asset influences the availability of financial resources, which may be supported by public or private institutions. The relevant policies of the country are crucial in navigating the conservation process and accessing available funds.

In a hierarchical order from macro to micro scale, sustainability strategies are constantly defined, modified, and evolving globally. In this phase, alignment with regional strategies and programs is crucial. Determining sustainability strategies is contingent upon factors such as the case specifics, location, qualification, identified problems, involved stakeholders, available funds, related policies, and your chosen approach. To visualize sustainability strategies, we again use modeling CAD tools.

If all the necessary steps are taken, considering all aspects, it's possible to initiate the fifth stage - the implementation. It may be necessary to be prepared to revise the problem

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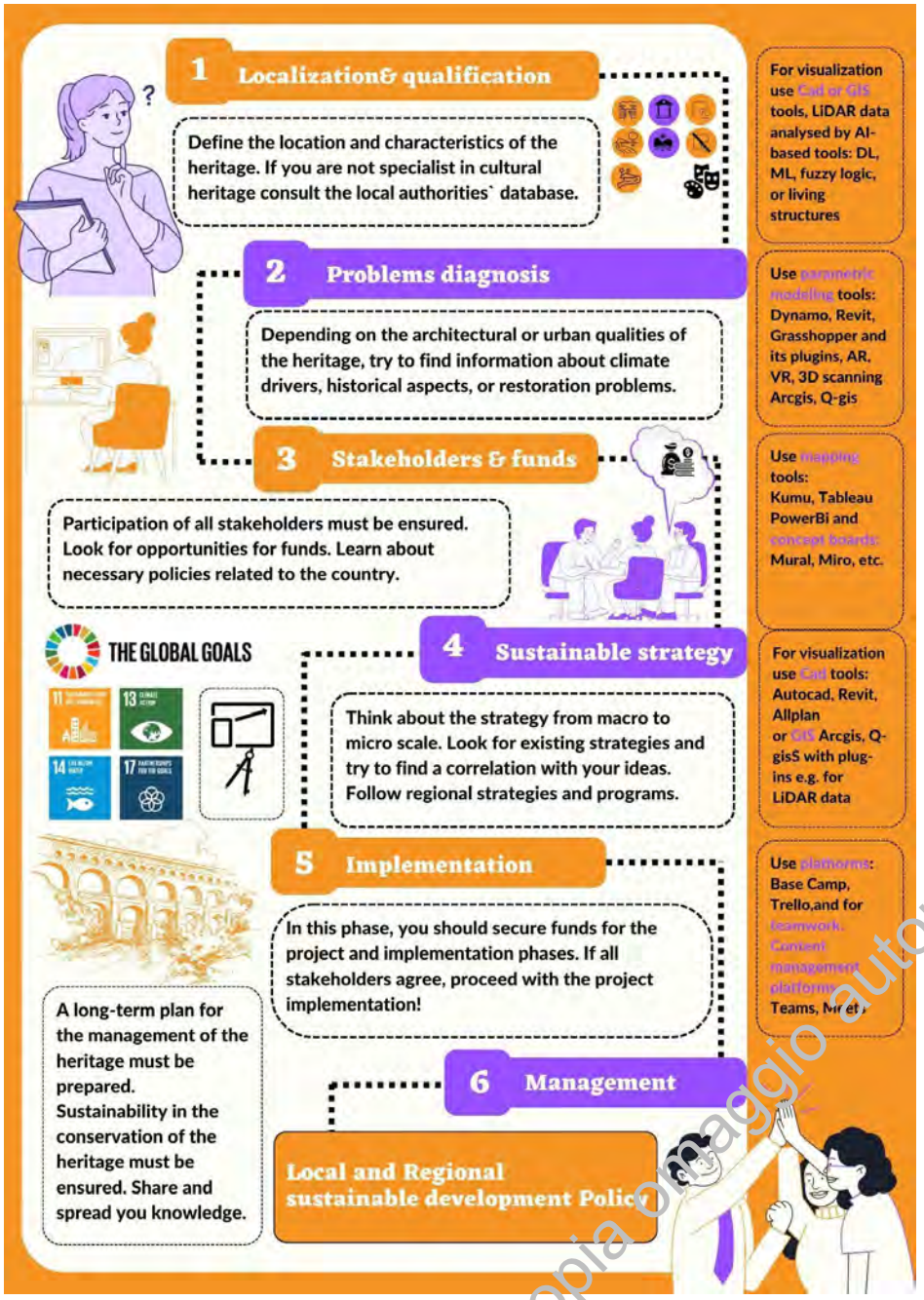
Fig. 1.
The roadmap as a tool for sustainable local and regional policy



diagnosis when new data requires the incorporation of additional sustainability strategies and adaptations. The implementation phase can be supported by platforms such as Base Camp or Trello and the above-mentioned online forums, but also TeamWork and content management platforms such as Teams, Meets, Zoom, Cloud, or Github. Assessment tools such as Life Cycle Assessment, Post-Occupancy Assessment, and Sustainability Certificates can also be used to assess long-term management of heritage, helping to explore and understand existing conditions and process of designing a sustainability strategy. The effectiveness of these tools is directly related to the availability and quality of data.

Climate change impacts pose a significant risk to heritage, necessitating the study and anticipation of resilience precautions across various time intervals. Realistic sustainability strategies require the formulation of long-term plans, which should be prepared and monitored by the relevant stakeholders to ensure a healthy and transparent management of the heritage. The long-term plan for the management of heritage must be prepared as the final, sixth phase, to anchor it in long-term local and regional policies.

The practices presented as a roadmap can serve as a basis for flexible policies, providing the basis for value creation in the six stages of the sustainability strategy. Emphasis was placed on the importance of public participation and the use of digital technology in the development of an optimal water heritage management policy model.

Keywords: roadmap, waterfront urban heritage,. European historic city centers, GIS technologies, conservation policy

Building waterfront resilience through heritage planning
Research on European cities in transition

*Giulia Luciani**

Complexity, dynamism and plurality are key characteristics of coastal environments. Long-running human presence adds layers to these rich and heterogeneous environments, but at the same time, due to the rapid alteration of the settlement patterns in the last centuries, and emerging threats such as environmental degradation and climate change, it exacerbates their vulnerability. Resilience has therefore become an essential target of urban and territorial planning. In this context, the entanglement of ecological conversion with the emergent field of heritage planning is drawing attention to an original nexus between heritage and resilience, to be explored in research and practice.
The urban sector that revolves around the terminal trait of river Tiber is an example of urbanised delta area which holds significant untapped potential. At the convergence of crucial environmental factors like the coastal system and the river course, it is also one of the most vital sectors in the metropolitan area both in terms of population and economy.

The primary goal of the research has been to explore approaches for the Tiber delta and similar areas, aiming to connect environmental aspects with a rich historical and environmental heritage. This heritage is the primary asset of the territory, with the purpose of initiating an ecologically oriented urban transformation. The central question was whether heritage can actively contribute to such transformation of the urbanized water landscape in general, with an overarching goal to assess the integration of strategies related to heritage in urban-territorial planning and design as part of a broader effort to regenerate urbanized environments with a focus on ecological balance.

To explore the issue of heritage and its possible active roles, a comparative case study analysis was developed, aiming at depicting the current practices mobilizing heritage in the urban transformations in Europe. The selected case studies are three major European cities - Stockholm, Gdansk, and Lisbon - differing in geographical location, hydrographic structure, and urban and hydraulic identity and culture. All three are "cities on multiple scales", serving as nodes in a metropolitan territorial formation. The scale of urban transformations examined varies for each city: a neighbourhood scale for Stockholm, an urban scale for Gdansk, and a territorial scale for Lisbon. This allowed for capturing as diverse situations and processes as possible. Similarly, the scale and spatial configuration of the heritage involved in urban transformations also changed based on the territorial context: a punctual good in the case of Stockholm, a network of goods in Gdansk, up to the entire estuarine territory in the case of Lisbon, marking a conceptual shift from "heritage in the territory" to "territory as heritage".

In all cases, there is a general intent to mend or strengthen the relationships between the city and the natural environment. Stockholm formulates this relationship through the concept of sustainability, understood as the use of technological innovation to achieve the proper integration of new construction neighbourhoods into the environmental context. Gdansk leverages the opportunity, provided by the relocation of many port activities, to restore a certain porosity to public space by opening it to contact with the previously denied water space. In Lisbon, efforts are made to achieve cohesion between ecological and social values in the urban landscape, where public space and the hydrographic network tend to merge into the estuary as a metropolitan-scale public space. The results of the case study analysis show how establishing new alliances can widen the scope, impact, and efficacy of heritage in local and territorial planning, generating unique opportunities for sensitive urban and territorial transformation. However, critical aspects and conflictual situations are often disguised or de-problematised, so that risks of exclusion arise if the issues of identity, equity and spatial justice are not carefully addressed. For instance, the analysis revealed power dynamics in the heritigization processes, bound to heritage narratives and subsequent valorisation, possibly leading to the marginalization of non-dominant narratives and representations.

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Building on the case study analysis, the research moved on to formulate a proper heritage-based strategy for the ecological regeneration of the Tiber delta area. In the Tiber delta open spaces are crucial for intervention, and the structured historical-environmental elements form the backbone of this network. This systemic heritage serves as infrastructure for the territory, potentially offering benefits to the urban environment and contributing to local life. An infrastructural approach to historical-environmental heritage is therefore outlined, valid within the specific context and replicable in areas with similar characteristics. The innovative design concept of ecohistorical infrastructure is introduced, which revisits and updates widely experimented and versatile tools such as green infrastructure. Ecohistorical infrastructures are devices shaping the urbanized landscape by integrating natural, built, and historicized elements into a network of nodes - places capable of stimulating greater interaction with the environment, as they possess historical depth, density of meanings and relationships - and connections. Participatory methodologies prove crucial in identifying and reactivating these places, leading to renovated ecologies of inhabiting delta areas.

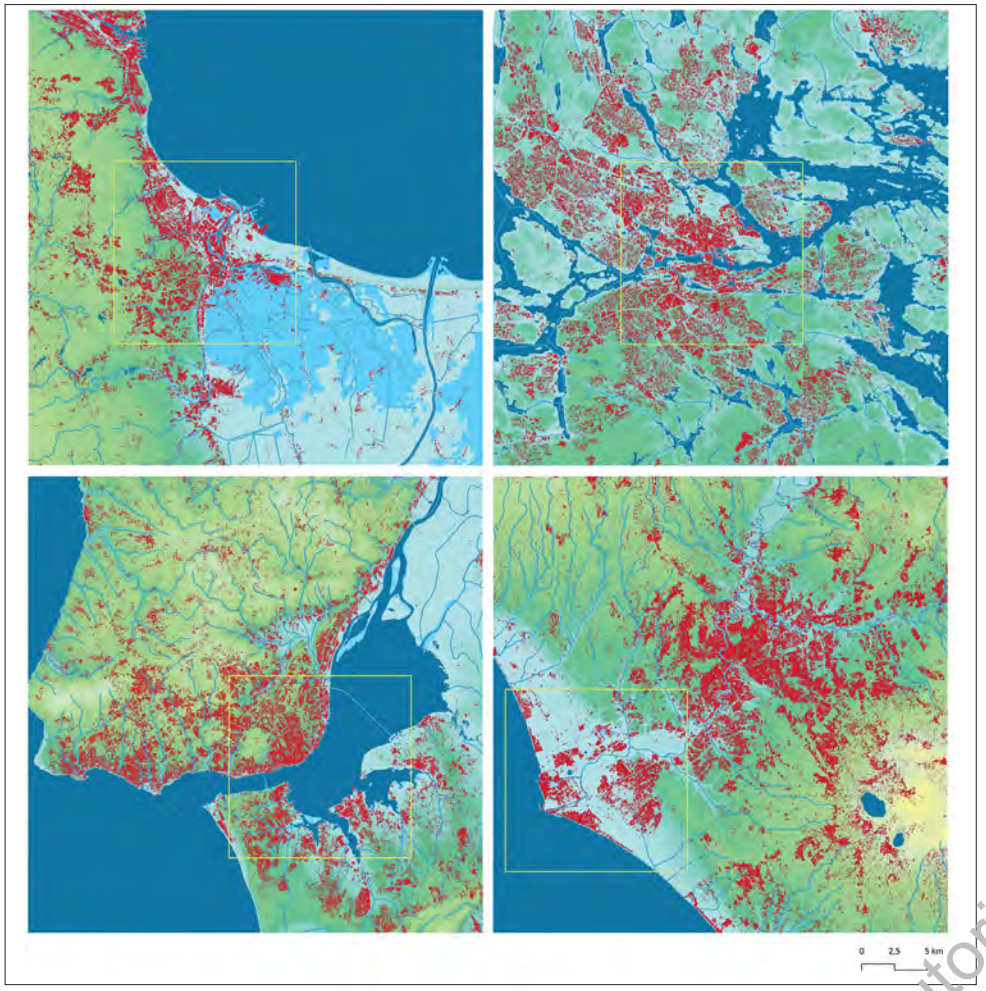

Fig. 1.
Left to right: Gdansk, Stockholm, Lisbon, Rome. The abacus of the case studies establishes a comparison between the four urban areas, focusing on their relationship with the wider metropolitan area and the hydrography, which is the base of their urban and environmental structure. Source: Author.

Post-Military Architecture as Inherited Common Good

Considerations on decommissioned bunkers along Lisbon coastline facing climate emergency

*Maria Rita Pais**

Climate emergence has become a significant topic in urban, landscape, and architectural heritage policies. It is noticed that many policy efforts at an international level have already been taken to address numerous major problems we are currently facing. UNESCO's "Policy Document on Climate Action for World Heritage" in point 59 describes the creation of a "value and inspirational power of World Heritage properties to showcase "win-win" mitigation practices that both reduce greenhouse gases and safeguard Outstanding Universal Value" (UNESCO, 2021, p. 12).

This text discusses the implications that collective memory and the idea of cultural interest in a scenario of climate emergency. The discussion brings the case-study of cultural military heritage of the post-industrial period, in particular the coastal artillery in the form of bunker. The look takes the areas along Lisbon coastline, as a paradigmatic example of material and immaterial persistence. Calculated to resist to bombing attacks, bunkers are super-resistant structures calculated to endure along time.

1. Super-Resistance. Some gigantism that Reyner Banham's trilogy "The New Brutalism" (1955), "Megastructure" (1976) and "Concrete Atlantis" (1989) implies, can be seen as an anticipatory scenario of our contemporary relation with the spoils of the industrial revolution. Although, Adrian Forty suggests that "Most histories of concrete begin with the Romans and their discovery of naturally occurring pozzolanic cements", we are confirming now that recent characteristics of concrete, steel, glass and other new conglomerates are proving to be highly resistant to decay.
2. Camouflage. Also, regarding bunkers, we can understand bunkers as "an active part of the landscape as a graphic object, comprehended to a degree as a natural environment phenomenon" Bennett, 2017:153) and so, the counterpart of bunkers is a palimpsest of 20th-century history that seat these anthropofossil's along natural environments. And this Melancholic landscape gathers this wild nature with these superressistant structures that seem, according to several authors, deep transcultural resonance of the tomb and the place of shelter.
3. Technoestesthetics. Plan Barron follows Bentham's theory only in visual surveillance once spatial design is invisible in the form of a bunker. In this sense there is no auto-discipline, as Bentham conceived, the dissuasion starts when potencial enemies where contacted. At that very moment they couldn't attack, because they didn't know where to and also, because of Washington treaty they couldn't use more than thirty-two kilometres range to reach Lisbon nor Setúbal. The system does not constitute a wall, since it is possible to cross the limits, but it is able, from a series of rules that regulate the entry of boats in the ports, forcing inspections in anchorages strategically positioned on the coast, to deter an invasion preventing access to ports and possible disembarkation of enemy troops. In this sense, "Visibility is a trap" and based on the concept of the panopticon as a machine with a deterrent effect on behavior, the Barron Plan designs a network of watch and attack posts, capable of disciplining and ensuring dominance over the behavior of individuals who enter the space delimited by the plan, integrated in a system, which Gilbert Simondon calls technoestesthetics, since it performs an intercultural fusion between technique and aesthetics, in an intricate set of elements that allows an aesthetic enjoyment from the scale of the portholes to the scale of the territory. In this case, the importance of understanding the Barron Plan as an intricate set allows us to understand it, not only as a set of objects, but as a single, technical and beautiful machine.
4. Inharited Common Good. Having Vienna and its remarkable case study of heritage and transformation of military heritage that has strategically changed the city. "It is My will" was a decree by Franz Joseph I, in 1857, which began the construction work of the new democratic city. The architecture here draws the society of that moment with the destruction of the walls of a feudal society, the city could expand outwards, into the countryside and open the city to better quality of life and society. A new ring road, Ringstraße, took the place of the walls, and plans were made to fill the wide space left by the old 500m circular ring of protection. The emperor's architects also created large green and leisure spaces accompanied by cultural projects, a new City Hall building, university, opera and large museums. This action transforms an enclosed city into a city open to the surrounding natural space and to culture and external dynamics, contributing to a substantial improvement of the inhabitant's quality of life.

We found resilience in Vienna case, and, in this line of thought, we also bring Plan Barron in its technolaestetic territorial waterfront as an inherit common good, still protected by law and that can now be used now to current quality of life. Climate action.

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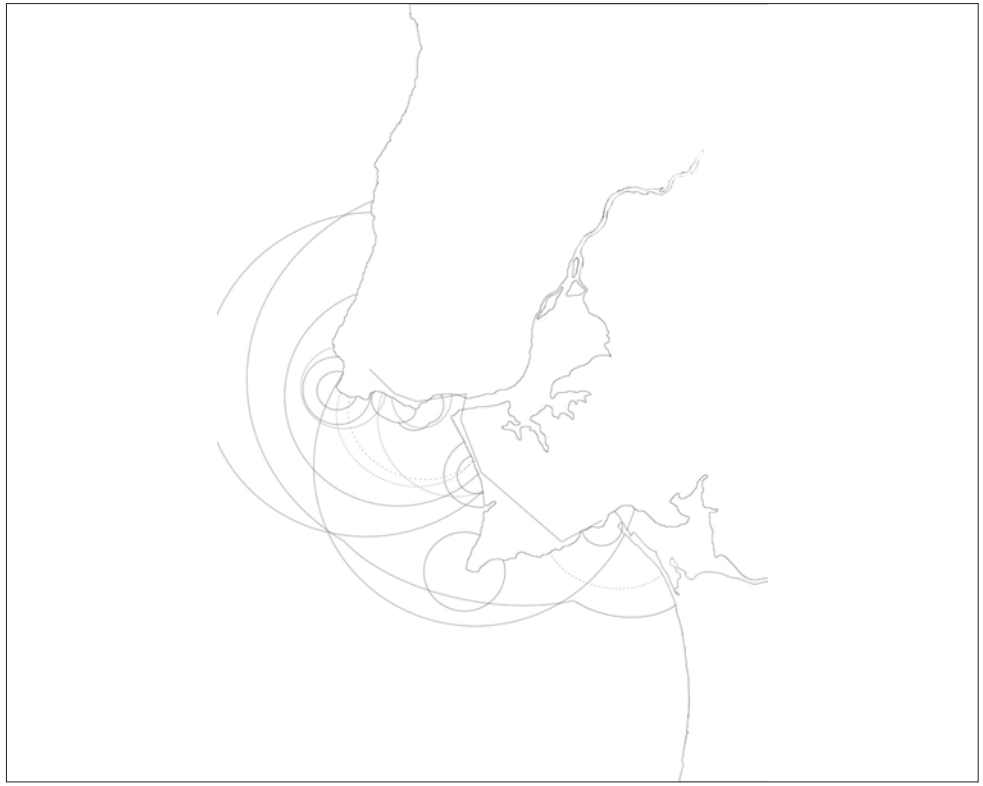

Fig. 1.
Diagram of Plan Barron Territorial Panopticon Surveillance.

Fig. 2.
Viagem ao Invisível – Díptico fílmico, 2016 @ Nuno Cera.

From neglected natural areas to multi-use and climate resilient public spaces: transforming Thessaloniki's urban waterfront

Alkmini Paka, Paraskevi Tarani***

Thessaloniki, a port city with a long and continuous history, has always retained a strong relationship to its waterfront which extends today more than 40 kilometers along the Thermaicos Gulf in northern Greece. The city sprawls around an arc of coastline along the gulf, while the extent multifunctional waterfront zone is one of the major spatial characteristics of the city's greater urban area. The coastline connects the various urban activities, some of them of regional and national importance, such as the City Port and the International Airport. The overall waterfront zone of the Metropolitan Area of the city is administratively divided into 7 municipalities. The great importance of the coastal urban zone is also recorded by the recent efforts of the Region of Central Macedonia to regulate it as a whole and not in fragments. The purpose of the Special Town Planning Plan that has been proposed and approved is the overall restructuring of the urban planning strategies, the opening of the entire Metropolitan Area's fabric to the sea, the upgrading of the coastal natural environment and the rendering of a coherently designed and organized multifunctional network of public spaces. This paper presents the outcomes of the two SOS Climate Waterfront's workshops organised in Thessaloniki, focusing on two areas of the city's waterfront as case studies. The workshops gather local and international experts to re-think urban design solutions for the two sites, Dendropotamos area within the borders of Municipality Ampelokipi – Menemeni and the seafront area of Municipality of Kalamaria. Situated on the western periphery of Thessaloniki, the first case site, Dendropotamos area, grapples with numerous contemporary challenges. The construction of the Western Districts of the city reveals a glaring absence of strategic and physical urban planning, compounded by subsequent and fragmented interventions. Dominating the landscape, new primary roads have reshaped the city's image. In response, the proposed masterplan of the first presented study envisions a future characterized by a seamless integration of nature with the adjacent heavy industrial zone. Central to this vision is the establishment of enhanced connectivity and sustainable accessibility along the waterfront through the implementation of a novel network of pathways catering to both residents and tourists. Moreover, the strategic change of land use to facilitate the creation of natural public spaces and support economic development represents a pivotal aspect of this initiative. The interventions seek to mitigate the prevailing urban-industrial ambiance, fostering an environment conducive to embracing the dynamic interplay between human activities and the evolving natural landscape. Ultimately, this approach prioritizes human-nature interaction, thereby diminishing their spatial divide. The second study proposes the establishment of a Green Innovation Hub utilizing suspended containers affixed to the bridge. Elevated containers will be interconnected via an external corridor, emphasizing the concept of reusing materials and leveraging existing infrastructure, such as the bridge, to minimize land use and soil sealing. A transition point from the bridge to ground level will be incorporated. Following ecological restoration efforts, including a phytoremediation process, the site will feature basins and elevated 'hills' to manage water levels, collecting sea and rainwater to mitigate flooding risks. These elevated areas will also host parks, pathways, and recreational amenities, while certain sections will accommodate leisure containers. Additionally, a protective waterfront zone will be established to serve as a natural buffer against rising sea levels. The second case site lies along the eastern waterfront zone of Thessaloniki, straddling the border between the municipalities of Thessaloniki and Kalamaria. Specifically situated between the Concert Hall site and the Nautical Club of Thessaloniki it also encompasses the former military camp of Kodra. The strategic approach outlined in the first project of this area study underscores the significance of this naturally endowed waterfront and resonates with the community's aspiration for increased public spaces in the vicinity. A primary focus of the proposed plan is the establishment of connectivity between residential blocks and the waterfront, achieved through a network of green corridors and the regeneration of the natural sea front area. Furthermore, the second Kalamaria

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project, titled Uprise, promotes the integration of private and public domains with the surrounding natural landscape and coastal areas, endeavouring to forge a seamless connection between the sea and inland spaces. Addressing pollution is a prominent challenge in this study, juxtaposed with biodiversity preservation, particularly within the Kodra camp area. The design proposals are resulted through the interdisciplinary collaboration of academics, researchers and local government representatives and planning experts aiming to enhance climate adaptation and mitigation planning in the area. The seminars, organized during the workshops, aimed at informing participants on the selected sites' particular features, historical evolution, key environmental parameters regarding biodiversity, local climatic conditions, as well as processes relevant to users' participation, circular economy and the incorporation of good practices adjusted to the city's context. Proposals focused on providing an out of the box approach for the reshaping and regeneration of available public space in the selected sites, introducing multiple new functions through an innovative urban design focus on sustainable design tools. Projects were taking into consideration the potential of the two selected natural waterfront enclaves trying to link them to the existing urban fabric and network of public spaces for enhancing the impact of proposed interventions while promoting resilience and mitigation of eventual climate change risks. The proposals, both with the scientific papers and reflection opinion articles presented within a book publication, consist of a knowledge corpus for strategies, design tools, and technical solutions that may be used by the regional policymakers aiming to transform the entire city's waterfront.

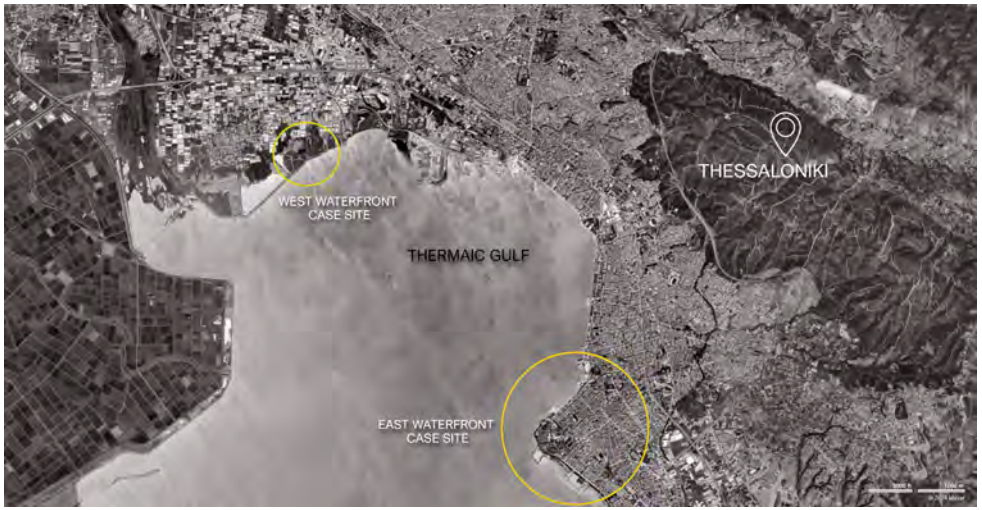

Fig. 1.
The two SOS Climate Waterfront's workshops organized in Thessaloniki, focused on two areas of the city's waterfront as case studies. Source: Garcia, P.R., Paka, A., Sakantamis, K. Tzaka, A., (eds) (2021) SOS CLIMATE WATERFRONT: Thessaloniki Fall 2019 Ampelokipi – Menemeni & Kalamaria, AUTH: Thessaloniki. Available online: http://sosclimatewaterfront.eu/sos/results

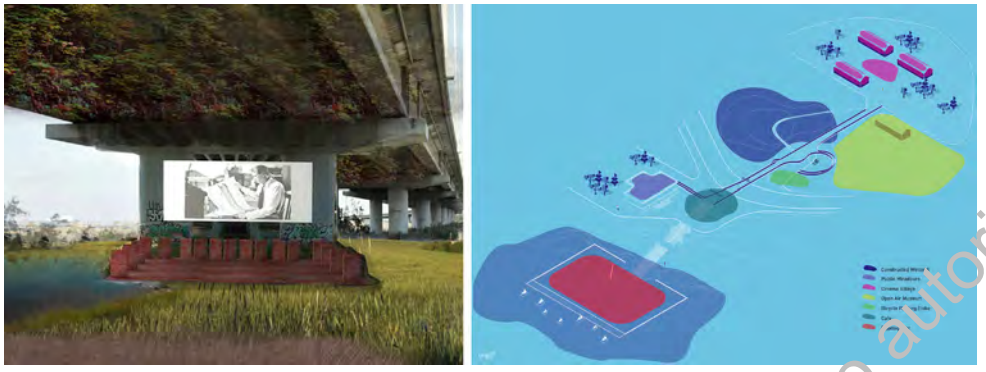

Fig. 2.
Left: Dendropotamos area study. Study team: Maria Nefeli Gerotoliou, Aikaterini Christina Inglezaki, Theodora Lymperi, Evangelia Raikidou. Studio Tutors: Nikos Kalogirou, Sara Manca, Maria Rita Pais, Jelle - Jochem Duits. Right:Kalamaria area study. Study team: Eleni Vasiloudi, Maria Ioanna Stathaki. Studio Tutors: Andre A. Prevedello, Tullia V. Di Giacomo

Proposal for the integration of short-term flood water into the water supply system of urban vegetation

*Eva Stache**

The changing climate affects the survival capacity of ecosystems and of people. The warming urban climate has profound effects on health, work performance, or economic efficiency. Heat, flooding and drought form a corelated complex of climatological events with far reaching consequents for urban well-being (*IPCC, 2023*). As climate change progresses, heavy precipitation events are becoming more frequent. Current sewer systems often cannot handle the large amount of rainwater, which remains for hours or days in lower urban places compared to the surrounding terrain. To resolve the flooding the water is then pumped away, mostly to the sewage system (*Stowa, 2022*). During periods of drought and excessive heat, which are becoming longer due to the changing climate, there is a shortage of water (*KNMI, 2023*). When urban vegetation becomes stressed due to water shortages and eventually dries out completely, cities become even warmer, (*IPCC, 2023*). As a result of the changes in the precipitation patterns, a new urban climate contradiction arises: there is too much water during precipitations but it is a shortage of water during drought. As ecosystems are vital for the well-being of the inhabitants and water is vital for ecosystems, this contradiction needs to be resolved (*Chen et al, 2023*).

The idea of using underground water tanks to store rainwater for drought periods was already realized by the Romans. In the Roman town of Stabiae on the Gulf of Naples, an almost 2,000-year-old advanced water tank installation was found. The Cisternone Romano, under the streets of Formia, is a hydraulic engineering masterpiece from Roman times, (*Kessener, 2004*). A combination of these historic hydraulic engineering strategies with current insights into the drought - flooding relationship, applied to the todays urban morphology and ecosystems, has led to a proposal for reversing a problem into a solution. The proposal is based on the following hypotheses: the excess of water during heavy rain would be welcome during drought periods; the morphology of the city and natural gravity can be used to collect the water; the collected redundant water may be stored for use during drought for urban ecosystems.

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Water is very valuable even if it is in the wrong place at the wrong time. Rainwater during heavy showers collects at different places in the city, in the lower-lying areas. The water flows from high to low, regardless of who owns the sites: the low-lying areas experience flooding. This is a problem however it also offers the solution: the water has already been collected. Looking to these places in a different way, is obvious that they naturally determine where water storage should be realized at lower costs.

The collected water may be stored in many different ways, according to the possibilities offered by a specific site. A good solution is offered by infiltration crates, which allow the water to remain in situ for longer before it eventually infiltrates. To keep the water on site for even longer, water containers made of various materials (plastic, concrete) or water bags are a good solution. These can be placed under the road surface, or in the basements of nearby buildings. For larger quantities of water, larger underground storage spaces are also conceivable in the underlying aquifer. However, the latter solution is expensive compared to the small local water storage variants mentioned earlier. An important question is how the stored water can be transported to the plants? By allowing underground irrigation to take place in a free fall, directly to the roots of the plants, the transport of water can be limited to small distances. This creates a network of underground water storage, each of which ensures the irrigation of a biotope nearby. The advantage compared to a network over large distances is that the costs remain low and can be covered locally. Because the system is mainly based on gravity and capillarity as a driving force, no equipment or electricity is required.

The aim of this study was to develop a model for storing water from (short-term) floodings for use during drought. In other words to create a system of small underground water supply sources for irrigation of the urban vegetation. The model was named Small Underground Blue (SUB). The municipality of Zaanstad in the Netherlands, in collaboration with a broadly involved citizen organization, has adopted the idea.

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Proposal for the integration of short-term flood water into the water supply system of urban vegetation

Eva Stache
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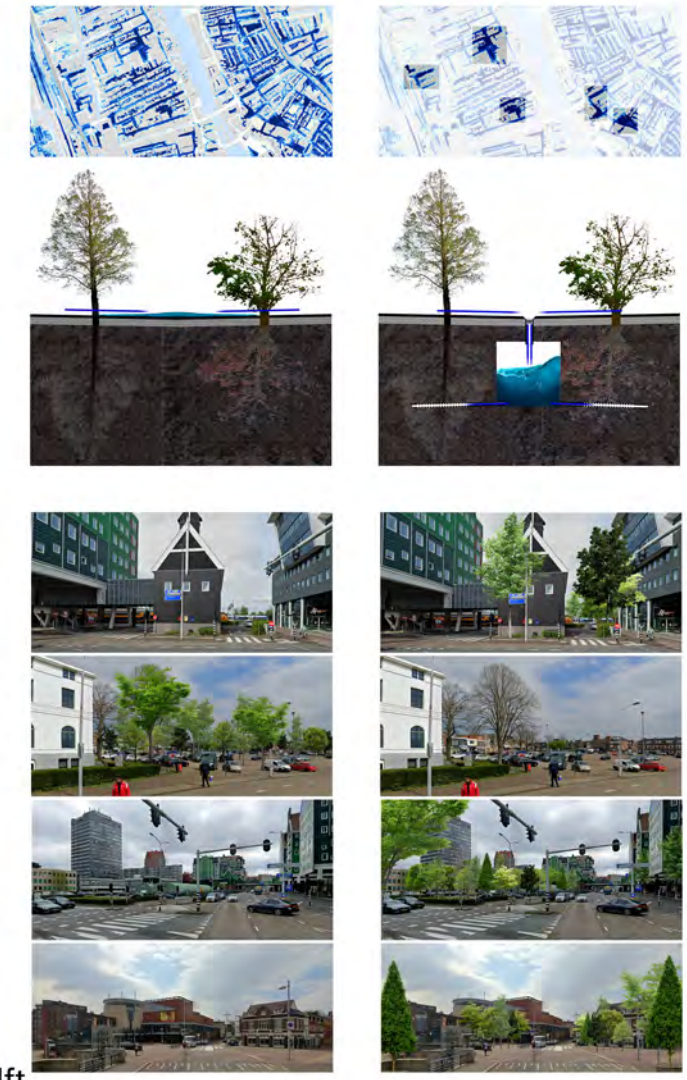

TU Delft
Delft University of Technology

Special Workshop

Italian UNESCO Chairs' vision and actions

Coordinators
Natalina Carrà
Giovanna Marconi
Paola Raffa

The unacceptable instrumental use of urban planning to deny religious minorities the right to places of worship

*Flavia Albanese, Giovanna Marconi**

Along with the growth of residents with migrant background, who now represent more than the 11% of the entire population (8,9% foreign residents plus 2.3% who acquired Italian citizenship), Italy has experienced increasing religious diversity. Nearly half of foreign residents come from predominantly Christian countries (28.8% Orthodox, 17.7% Catholic) and 33.3% from countries with a Muslim majority, but the heterogeneity of migrants' countries of origin means that there are also a wide range of other minority religious groups. Due to the widespread stigmatization and fear of migration and the cultural diversity it brings, as well as its politicization pushed by populism, religious minorities' demand for collective spaces remains unheard, if not hindered. Freedom of worship, recognized by Article 19 of our Constitution, and the resulting right to gather to practice it, has been often ostracized by local governments unwilling to accommodate differences and/or pandering to popular protests against the opening of places of worship of religions "other" than the dominant one, particularly when Islamic (Allievi, 2010). Since any form of open discrimination is unconstitutional, several migrant-unfriendly local governments started to instrumentalize the technical-legal apparatus of urban planning to prevent access to collective space by religious minorities. Our discipline and its tools (e.g., standards or intended uses), are thus being used in contradiction to the logic (and ethics) they were introduced for, i.e. ensuring the right to the city for all.

If the denial of the change of intended use of properties has been widely employed throughout the country as a strategy to prevent the establishment of minorities' places of worship, some Italian Regions (i.e. Lombardy and Veneto) have gone further: they amended their urban planning laws to introduce specific technical tools and procedures that are apparently neutral, but clearly designed to make the opening of new places of worship far more complex and discretionary. So much so that the media addressed them as "anti-mosque laws".

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On the ground, this approach results into socio-spatial exclusion and fragmentation, as the case of Padua's Arcella neighbourhood clearly shows. With 32% of its nearly 16 thousands inhabitants of foreign origin, Arcella is the most multiethnic neighbourhood of the city. While over the past decade grassroots activism has engaged in several urban regeneration initiatives reducing the stigmatization to which it has long been subjected (Marconi & Albanese, 2022), problematic areas of socio-spatial segregation persist within it. It is the case of a small former industrial complex located on the edge of the neighbourhood near the railroad, known as the "Funghi area" after the name of its owner, who found in the foreign population an unexpected pool of people interested in renting "off the market" rundown premises in a location unattractive to most. Several groups belonging to religious minorities have found a place here: a Hindu association (a temple), an Islamic cultural center (a mosque), the Chinese Evangelical Christian Union (a church), an evangelical group of French-speaking sub-Saharan Africans (a prayer room), a few Protestant groups of English-speaking sub-Saharan Africans, especially Nigerians (prayer halls).

To bypass the longstanding ostracism against the opening of Muslim places of worship - and which has also affected other religious minorities after being *de facto* institutionally-legitimized through the amendments to the regional planning law - these spaces are formally registered as venues of immigrant cultural associations. A *camouflage* strategy that also finds space in the meshes of the reform of the Third Sector (dlgs 117/2017), which allows NGOs to carry out their activities in any space regardless of the destination dictated by urban regulations (Morpurgo, 2022).

In a vicious circle of invisibilization, minority religious groups are not only confined to this isolated place on the edge of the neighbourhood pretending to have other than religious aims, but also they keep these spaces deliberately anonymous and unrecognizable on the outside (while they are rich in symbols, decorations and sacred objects on the inside). Their 'under-the-radar' activities become visible only on holidays, during which

Fig. 1.
Area Funghi, Arcella

Fig. 2.
Area Funghi, Arcella. The wall from the residential area

the complex attracts a lot of people even from the province. The crowding and wild parking during these days caused tensions and complaints from residents of the nearby residential area, who were also concerned about the illicit activities (i.e. drug dealing and consumption) happening in the Funghi Area at night, taking advantage of its isolation.

If the local administration has turned a blind eye to the fact that several places of worship formally registered as cultural associations are concentrated there, the exclusion, marginalization, and ghettoization of this place have been further exacerbated by the "solution" it adopted to solve the conflict between old residents and new users, namely the erection of a wall that interrupts the access road from the residential area, sharply separating the complex from the neighbourhood.

In a context politically hostile to diversity, such as that of the Veneto region, urban planning acts as a handmaiden to institutional discrimination. Rising up to remove the support offered by technical planning to political territorial governance is a due act that, while not enough to reverse the discriminatory attitude of some administrations, would at least force them to take full responsibility for their actions, without alibi.

Regenerative processes and innovative experiential laboratories for forms of cultural inclusion

*Natalina Carrà**

Inclusion is a long-term social process and added value for communities. Inclusion in the cultural field is a process in which institutions work to raise awareness, but also in actions and activities that ensure long-term participation paths and processes for different communities, aimed at guaranteeing that identity and heritage of a place are sensitively preserved. The relationship between cultural heritage and migrants highlights the social importance of cultural institutions and the valorization of cultural heritage in the fight against social exclusion. Over the years, the concept of social exclusion has, in fact, obtained recognition for its multidimensional nature, including the cultural sphere and its consequent impact on other political, economic and social dimensions. This recognition has opened up new opportunities, interpreting culture as a transversal tool for social cohesion and as a positive agent in the fight against social exclusion. Recognizing that culture exerts a positive influence in the fight against social exclusion means that culture presents itself as a possible response to some needs and problems that the increasingly widespread and widespread inclusion in society of groups very different from each other in terms of ethnicity, culture and religion involved in particular with respect to themes such as identity and difference.

The paper deals with issues that concern the promotion, sharing and exchange of experiences and tools developed in internal territories on the themes of reception, empowerment and participation of residents and foreigners, cohesion and social inclusion. Forms and practices of re-appropriation and reconversion of urban areas and territorial contexts as a need to define plural visions of urban spaces and landscape understood as an expression of identity, of the close relationship between humanity and the environment and as an expression of the social, productive and cognitive universe of communities.

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The proposed action research path underlines the importance of bringing together the experiences and creativity of operators from different institutional fields in developing intervention strategies suited to the complexity of the values and experiences at stake. The objectives start from the belief that integration processes require policies that are aware of the transformations taking place in communities and reference models suitable for forms of cultural inclusion that promote integration and social cohesion through training and active participation in social and cultural life for ensure that cultural diversity is valued and protected, in order to support a more cohesive and inclusive society.

The aim is to promote the role of the inhabitants in the construction of representations of the territory capable of communicating their own lived space and the socially recognized values of the territory they belong to in a sort of"cross-breeding logic"(Jean- Loup Amselle, 1999), to underline that every culture, of the past and present, has built and continues to build its own identity by connecting to other cultures. Reference examples could be the maps developed for migrants and citizens in the context of the European project NEAR-NEwly ARrived in a common home, -which aims to encourage the integration path of migrants during their settlement in the host countries-, in Milan, Perugia, Lisbon and Nicosia, which serve both to orient and to make the inhabitants discover a new way of experiencing their neighborhood. All migrant citizens can have a new tool at their disposal to easily get to know places: the "unconventional maps" which promote integration between migrants and citizens. The unconventional Maps, implemented in some neighborhoods of four European cities – Lisbon (Bairro das Galinheiras) in Portugal, Nicosia in Cyprus, Milan (Central Station-Naviglio Martesana) and Perugia in Italy.

Based on these considerations within a complex process of building a community map (Carrà, 2023-2024), the activities, still ongoing, include a training and empowerment phase, with field experiences, in partnership with the community local and following the action-learning approach (learning in action). In a complementary way, users

Fig. 1-2.
Community laboratory activities.

(foreign residents and locals) participate in an advanced experience of knowledge and understanding of places, identities, knowledge and culture. An inclusive mediation of cultural heritage through a series of actions aimed at building active citizenship paths through knowledge and conscious use of heritage. Through a participatory mapping workshop, the groups identify specific places with particular social value, which when connected together form the "path of inclusion". In this way it is possible to observe places from another point of view, reflecting on the strengths and critical points of the place where you live. We therefore arrive at the creation of real maps that also represent the cultural heritage of a community, which includes both tangible elements and intangible elements such as values, traditions, art forms and in general everything that contributes to defining culture, the history and identity of a place.

In conclusion, we want to achieve the realization of a process of democratization of culture which marks the transition from a culture reproducing diversity, which conveys meanings and values of the established community, to a culture which becomes aware of its social responsibility also with respect to ethnic groups or social minorities towards which it is possible to model dedicated planning and communication to guarantee access, participation and representation to all, with respect to all phases of knowledge of culture and society.

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Mediterranean landscapes in emergency: natural and social habitats

*Debora Macrì**

Migration, even before becoming a current social phenomenon, has been a process that has involved humanity, affecting every country and continent since, "on the unstable surface of our planet, [...] migration becomes an essential strategy of adaptation and flexibility".[1] The issue of the "displaced people," literally the "people without a place" who have left their places of origin and now appear "stationary" in their movement as they have not yet found a new permanent position in the world, has generated axes and intense migration flows, becoming a constitutive dynamic and an established phenomenon in the national territory.

The UNESCO Mediterranean LANdscapes in Context of Emergency Chair activated in 2021 at the Mediterranean University of Reggio Calabria and specifically the doctoral research activity Mediterranean Landscape in Emergency: natural and social habitats, funded under the PON "Research and Innovation" 2014-2020, as a research grant on green issues, analyzes landscapes in emergency i.e., those territories that host a large number of people who, abandoning their places of origin, move in search of new territories to inhabit. The area under investigation is the valley identified by the hydrographic system of the Patrì stream, on the Sicilian Tyrrhenian slope, a hinterland marked by a territory characterized by slopes with a variable trend furrowed by streams with a torrential regime. The valley presents itself as a highly identifiable territory, marked by orographic peculiarities that, in addition to characterizing the natural landscape, have influenced the settlement patterns of the main settlements. Lacking an articulated internal road system, it appears as a territorial mosaic composed of many fragmented and scattered centers that fail to undertake synergistic and unified actions.

The municipalities of the Patrì valley, identified by SNAI, (National Strategy Inner Areas) are grafted onto a territory rich in natural, anthropic and cultural factors that determine a defined and recognizable historical, geo-morphological and landscape identity. The territory experiences the progressive phenomenon of depopulation and abandonment of centers, the intrinsic nature of which is closely linked to agricultural activities that, for years, represented a secure source of income for local inhabitants. While on the one hand, the demographic decline of these minor centers asserts itself overbearingly, on the other, the territory is a place of arrival of migrants who are welcomed through the SAI, Sistema di Accoglienza Integrazione (Integration Reception System), which is widespread in the Sicilian territory. The objective of the research is the rewriting of the space redefined by the inclusion, temporary or permanent of the relocated groups of people in the already established communities of the inland municipalities of the valley. The design solution for the reconfiguration of emergency landscapes makes use of actions capable of bringing well-being to local communities with the ultimate goal of fostering the settling of newcomers.

The strategy identified is based on a circular process capable of permeating all spheres of development, from the social to the economic, making use of agriculture as the economic sector with the greatest potential in terms of added value to the territory and employment spin-offs. The re-functionalization of some areas with abandoned agricultural vocation through the design and project at different scales of the landscape can offer a solution for the construction of scenarios that, by encouraging the voluntary settlement of migrants, allow the reactivation of disused agricultural practices and the enhancement of local identity and traditions. From this perspective, promoting the recovery of abandoned lands requires a welcoming strategy capable of integrating and actively involving migrants in a radical dichotomy that inescapably links culture to nature. The potential of the research project lies in the definition of lines of intervention focused on the use of culture as a factor of sustainable development and the rethinking of agricultural activities,

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[1] Calzolaio, V., Pievani, T. (2016) Libertà di migrare. Perché ci spostiamo da sempre ed è bene così, Giulio Einaudi editore, Torino, Introduzione.

developed from bottom-up methodologies that involve communities and individuals through dialogues with associations and local authorities. Agricultural landscape design as a model aimed at inclusion is able to ensure the reproducibility and transferability of interventions in similar contexts, developing the capacity to produce tangible benefits in the medium and long term. In fact, the increasing expansion of small-scale projects is not accompanied by approaches and research that can provide reliable results and replicable models. Conscious planning and design of the agricultural landscape can contribute to social cohesion and integration among communities by creating new inclusive and welcoming spaces, forming an active citizenship responsible for the environmental sustainability of its territory, attempting to trigger processes of return migration to new inclusive and sustainable territories, relating to the specificity of the Patrì valley territory and its agricultural landscapes to build new identity systems.

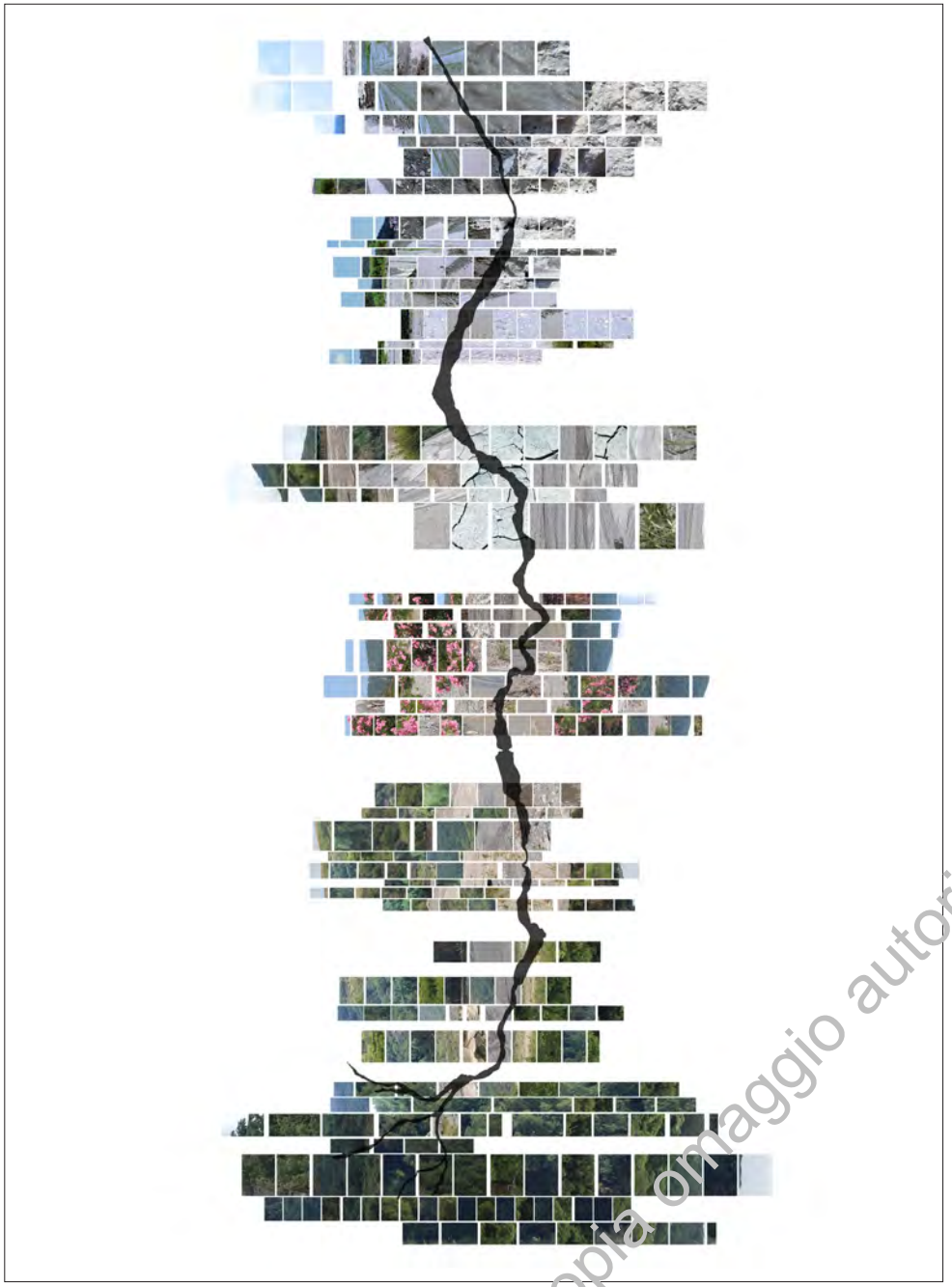

Fig. 1.
Physical and morphological analysis of the Patrì stream valley. (Graphic elaboration by the author).

Ways of inhabiting shared places

*Paola Raffa**

Mediterranean Landscape in Context of Emergency is a UNESCO Chair focusing on territories and places for shared inhabitation. It adheres to the UNESCO mission to respond to "territories in crisis and populations in transition" by focusing on landscape design as an expression of the close relationship between humans and the environment and as an expression of the social, productive and cognitive world of Mediterranean communities.

The UNESCO Chair aims to contribute to the enhancement of physical and human landscapes that are undergoing major transformation today due to millions of people moving in search of places to live.

The work of researchers who are part of the UNESCO Chair aims to encourage and support local institutions and communities in implementing local management policies focused on building communities that inhabit, interpret, create and operate within shared multiethnic and multicultural places.

To do this, since 2017, Laboratories MeLANinE have been activated in collaboration with municipalities, schools, associations and local communities. The Laboratories MeLANinE are places of applied experimentation that aim to build development activities from local resources, they have the dual objective of triggering economic-productive processes through the reactivation of marginal territories where abandonment is the primary cause of disruption and the redefinition of cultural landscapes in which new social identities are emerging.

Laboratories are environments of learning and practical application in which participants (migrants and local citizens) come into direct contact with places by following experimental procedures predefined by a development program in the specific field.

They are in close relationship between research, education and training, between knowledge and cooperation, making knowledge transfer a system firmly hooked to the economic processes and social advancement of places.

Initiating forms of spatial planning when this is related to reception and inclusion, that is, when incidences occur in inhabited space both also and especially in the transient cyclical nature of everyday living, means rethinking the new the relations between social communities and the configuration of physical space.

The Laboratories also works according with European Landscape Convention, in which the landscape "means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (ELC 2000 ch. 1), and the aim is to achieve sustainable development based on a balanced relationship between social needs, economic activity and environment.

Scientific research acts as an operational tool, to significantly increase efficiency in the design of landscapes in context of emergencies by implementing practices, especially participatory ones, to ensure responsiveness in the management of urban and spatial interventions from the potential of places.

The first Laboratory entitled Patrì(monio)/Paesaggio was activated in 2017, in the Patrì Valley in the province of Messina, Sicily. It provides for the recovery of a river area, once cultivated with productive gardens and now in a state of abandonment.

The goal is the recovery of agricultural activities with the inclusion of migrants in the cultivation and sale of food products.

The project phase was conducted through an initial workshop in which students and teachers from the Mediterranea University of Reggio Calabria participated along with

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students and teachers from the CPIA of Fondachelli-Fantina, the mayor and representatives of the municipalities of the Patrì Valley, representatives of the associations that manage the reception centers for migrants, foreign guests and residents.

At this stage, an area of confluence of two branches of the Patrì was identified within the river stretch. The area was once the site of productive gardens and is now in a state of abandonment.

In the analysis phase, the ancient traces of paths, dry stone walls, fences, vineyard guardian posts, remnants of ancient crops were identified. The project redesigned the fields, indicated the areas of differentiated crops. An important debate was conducted on the crops to be planted, taking into account the migrants' countries of origin and climate compatibility.

The project represents the physical reappropriation of a space, but also a symbolic place, where tradition and the ability to build a new multicultural identity are joined. A place of work and depiction of unprecedented experimentation with living spaces and new values.

The need to protect crop space inspired the second workshop held on the university's campus. "Le sentinelle fluttuanti" are the sound deterrent scarecrows to be placed to defend the fields from birds. On this occasion, migrants of the Fondachelli SPRAR have participated in university life for a week together with students from the Faculty of Architecture. Some models of the moving figures to be placed in the fields were designed.

The next workshop will be "Incanto, tra Penelope e Sherazade" a place of shared image constructions for possible imaginaries, addresses the theme of human freedoms and rights, the status of women, the condemnation of violence and the universal right to knowledge. In the social space, representation takes on the role of a powerful storyteller, an activator of imagination, creativity and critical thinking.

Cultural heritage in danger
Digital tools for preservation

*Maria Trombetta**

Cultural heritage, in its various forms and expressions, represents the identity and historical memory of peoples and expresses universally recognized values. The UNESCO Mediterranean Landscape in Context of Emergency Chair is concerned with territories that prepare for the integration of migrants into resident communities. In contexts where communities are called upon to safeguard their identity there is the need to preserve their historical memory is manifested, through knowledge and sharing of local cultural heritage. Activating processes of democratization of culture enshrines the values of social awareness and responsibility with respect to minority social groups. The numerous conventions adopted by UNESCO operate with the understanding that cultural heritage represents not only the heritage of the country and the inhabitants who hold it but to all humanity. In 1954, the Convention for the Protection of Cultural Property in the Event of Armed Conflict was concluded in The Hague, which governs the safeguarding of cultural property in the event of armed conflict. The 1954 Convention, supplemented by the two protocols of May 14, 1954, and March 26, 1999, was joined by other international normative measures in 2015, particularly in defense of territories affected by terrorism and ISIS. In addition, Article 11 of the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage provides for the establishment of a "List of World Heritage in Danger," in which cultural and natural heritage properties threatened by grave dangers are inscribed. These threats can be divided into two categories: those of natural origin, such as earthquakes, floods, fires, spontaneous, intense winds, volcanic eruptions, and those of human origin, including acts of terrorism, civil unrest, armed conflict, looting, theft, etc.

The List of World Heritage in Danger lists sites for which more protection actions are needed. In 2023, 56 sites appear on the List of World Heritage in Danger. In the Mediterranean basin falls theokok largest number of endangered sites, in Libya alone there are 5 sites (the archaeological site of Cyrene, the archaeological site Leptis Magna, the archaeological site Sabratha, the ancient city of Ghadamès, the rock art sites of Tadrart Acacus); in Syria 5 sites(Palmyra, the ancient city of Aleppo, the ancient city of Bosra, Damascus, the ancient villages of northern Syria, Crac des Chevaliers and Qal'at Salah El-Din) ; the ancient City of Jerusalem and its imposing Walls.

There are many interventions to safeguard cultural heritage sites in crisis. The best-known examples are the Temple of Dendur in Egypt, which was dismantled and removed from its original location through a UNESCO and U.S. project; the Palmyra archaeological site in Syria, which suffered very serious damage during the civil war, and which the Institute for Digital Archaeology's New Palmyra Project has begun to contribute to by equipping a group of archaeologists with 3-D cameras and tasking them with documenting those structures that ISIS might decide to destroy; the Island of Tuvalu in the Indian Ocean, a small island whose existence is not guaranteed, at least in the physical world, given climate change and rising sea levels, but in the Metaverse, its history and culture may live on. In the period of crisis, cultural and natural heritages are subject to special influences that accelerate the process of normal degradation and sometimes cause their complete destruction. At the 32nd session of UNESCO's General Conference on October 17, 2003, the Charter for the Preservation of Digital Heritage was adopted, arguing that the disappearance of any form of heritage constitutes impoverishment, and believes that digital heritage "devoid of temporal, geographic, and cultural limitations" can be a resource accessible to all "to ensure the representation of all peoples" and cultures over time.

Digital technologies are thus a suitable tool for building archives of endangered physical heritage. Among them, immersive technologies, due to their diverse use group, affordability, and ease of use, are able to ensure the survival of the memory of a common good. The research aims to investigate 'heritages in crisis' in the Mediterranean basin, with

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Fig. 1.
Photo generated with artificial intelligence.

Fig. 2.
Photo generated with artificial intelligence.

the goal of preserving their memory through the identification of effective strategies in safeguarding and transmitting them to future generations and understanding possible processes of dissemination in migrant communities settled in new territorial contexts. A relevant part will be devoted to the contribution that augmented reality technologies have on the process of knowledge and enjoyment of tangible and intangible heritage. AR/VR technologies are constantly evolving, and research in this field aims to consolidate uses on cultural heritage preservation strategies. The operational objective is the design and implementation of experimental digital products for the preservation of endangered cultural heritage.

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Special Workshop

A Transdisciplinary Approach to Placemaking and Inclusivity: COST Action Dynamics of Placemaking

Coordinator
Ayse Erek

Soundscape Map: Listening and identity

*José Luis Carles**

The soundscape of everyday life provides insight into life in a particular place and significantly influences the complex process by which spaces become places. The concept of soundscape was born almost contemporarily in urbanism with Southworth, 1969 and music Schafer, 1977, generating a wide field of research involving very different disciplines. Murray Schafer will provide a complete theory and practice that will give continuity to this field of study. Listening to the world of sound can be understood as a collective musical composition, going beyond the physical characteristics, and pointing the importance of the meaning that sound has for people in their specificities and in their shared and constantly changing everyday social and cultural identities. In the last decades, also environmental acoustics has been interested in soundscape and has formalized its methodologies through an ISO standard (ISO, 2014, 2018, 2019). This fruitful connection between different approaches opens a crucial debate between standardization, epistemology, phenomenology, and the aesthetics of soundscape, involving the critique of Western scientific thought that started in the 1950s continues until today. In the second half of the last century, researchers of various backgrounds (geographers, urban planners, environmental psychologists, sound experts) focused their research on the emotional relationship of human beings with their environment. The concept and methods of the soundscape arise from sensitive experiences of the place in direct relation to a community. Since the beginning, many questions have arisen about understanding the soundscape, the information it provides, the listener's experience, who the listener is, and exploring an unexpected state of belonging where the human personality merges with the environment. The challenge is to explore the sound environment in all its space-time complexity through sensibilization, awareness, perceptions, activities. We consider the concept of soundscape not only as an acoustic environment, as interpreted by physics, sounds located in space perceived by humans and animals, but also involving the memory, and experience of listening and the knowledge that arises from the phenomenon of sound considering the meanings, and representation of sounds over time of the inhabitants. This abstract focus on the ongoing research 'Soundscape Map of Madrid: Identity and Listening', Fig.1 an interactive and accessible online map-based system focused on creating an informal digital space of situations, actions, experiences, listening and physical data, capable of highlighting the importance of sound in everyday life in the centre of Madrid. We propose an open process of exploration/experimentation with a hybrid methodology and several tools: informal meetings with citizens, interviews, storytelling, soundwalk, recording data collection. we explore the identity of places through listening as generous listening: listening to our body, the collective body, and the sonic environment. The map as a place of confluence of experiences, citizen knowledge and reflection on the sound environment as an approach to gain detailed knowledge of the soundscape situated scenario. In this context to raise a debate on how to map emotions, feelings, rituals, urban choreography, and movement in public spaces and actively involve citizens in the process. The multi-layered map becomes a place for local people, artists, researchers, urban planners, and municipalities to work together, as well as to provide collective knowledge about sound in the environment we live in and to enhance collaborative design for sustainable and creative environments. We propose an area of collectively and connectivity between researchers and inhabitants of a given space. The map as a geographical and codified representation of physical spaces becomes a fluid, subjective, dynamic, and changing environment, not only because of the plurality of data it contains, but also because of the multiple readings that can be made of these data. It is about creating an environment of shared knowledge, but also a place of projection of future scenarios for the urban space, in which everyone's voice is heard. These sound maps allow us to locate verbalizations, impressions and/or memories, through a process of research/action with the objective of collecting qualitative and quantitative data. The points geolocated on the map no longer

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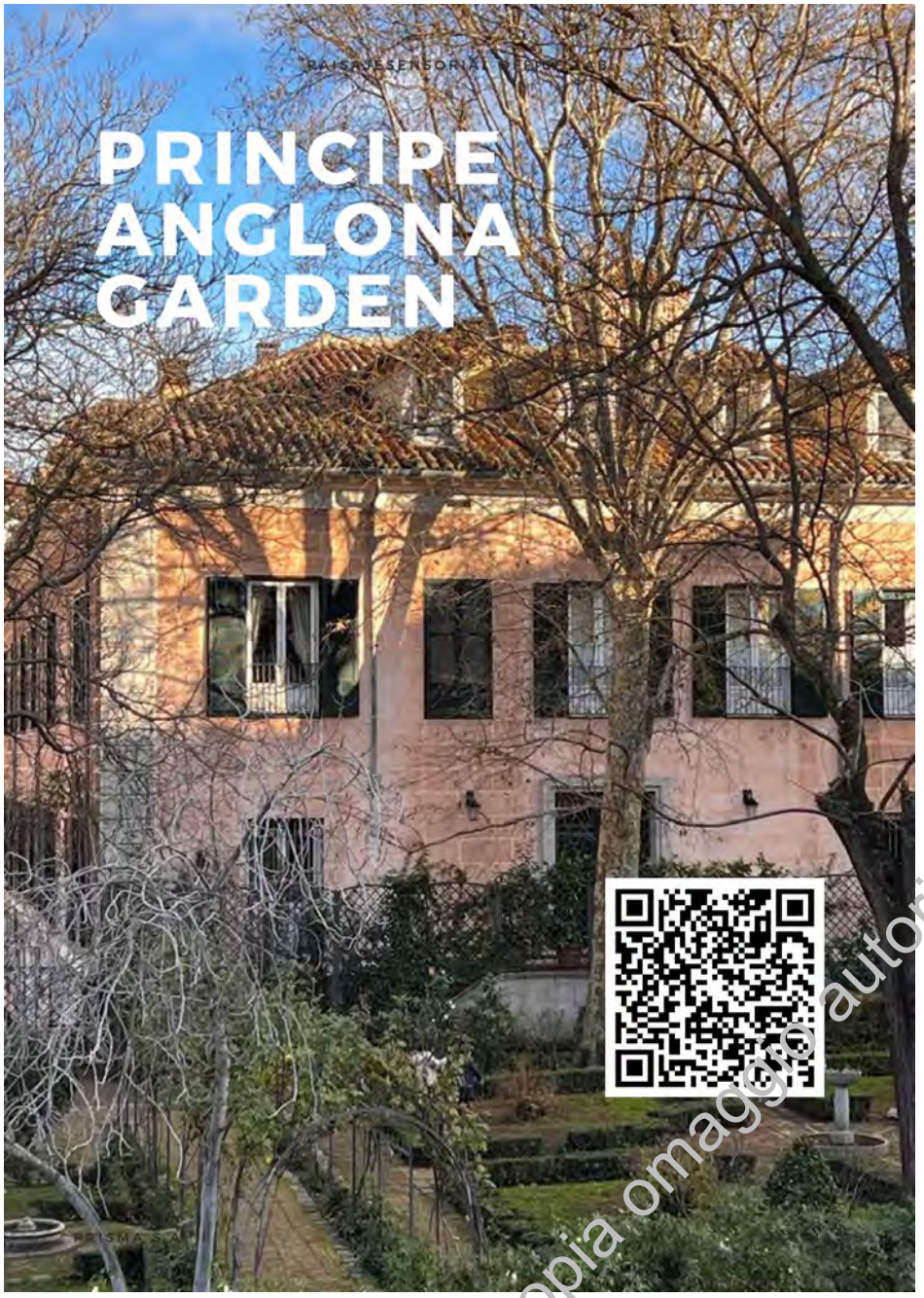
Fig. 1.
Anglona Garden Madrid.
Palmese2023



correspond to neutral spaces, measured and equal for every observer located outside the map; now, these points are the impression, emotion, memory, and perception that the inhabitant has of this place. Sound orients and organizes city spaces, enriching and complementing the multisensory perception of environments and emotional atmospheres. The soundscape map, because of the collaboration between mapmakers and map-users, can become a socio-political, cultural, historical, and aesthetic instrument to improve the social justice in the communities concerned, encouraging the inhabitants to share their knowledge, ideas, and desires about their soundscapes. Promoting auditory awareness by integrating the soundscape into urban planning practices is a necessary step to improve the liveability of cities.

Informal Placemaking: Social Inclusion and Practices of Art and Culture

*Ayse Erek**

Informal placemaking practices are key in contributing to knowledge production and transfer in the urban environment. However, the recent acceleration of social activism in public urban settings joining forces with recent trends in contemporary art and cultural practices has not yet been spotlighted in this context. Cultural and artistic practices in urban spaces can shape how people experience their surroundings, fostering new ways of identifying with the city and promoting understanding of diverse identities and the concept of urban livability.

Informal placemaking is a concept referring to the practices and strategies undertaken by citizen participation as well as by artists, activists, and designers. Cultural and social activism play a crucial role in promoting social justice and fostering mutual cultural understanding within urban environments. Despite the huge popularity of literature on the potential of art and the creative industries to positively transform cities, this presentation aims to identify the role of artistic and cultural practices in spatial planning and community development. The presentation will target the relevance and significance of the practices that are defined as neither DIY practices, nor interventions, and emerge from daily life, maintaining a comparative perspective through case studies, emphasizing the significance of informal practices of placemaking for lively urban environments.

As public, private, not-for-profit, and community sectors partner to strategically shape the physical and social character of a neighborhood, town, city, or region, we want to suggest that the practices of informal placemaking can arguably play a more substantial role to unfold place-based narratives, and reinforce existing norms. Or conversely, they can challenge us and inspire new cultural narratives. The cases chosen to discuss informal placemaking include exhibitions and the artistic and design interventions in Istanbul, where the new neoliberal policies after the 1990s demanded new management techniques and urban policies, as city has undergone a massive process of renovation, restoration, restructuring, and urban gentrification. This change has been brought about not only by financial capital, but also by cultural capital.

In this presentation on informal placemaking, the major focus is on its potential to produce citizens' knowledge on urban space and urban planning and explore the artistic and design practices that reinforce community development and spatial planning. With this aim the presentation will focus on exhibitions of research that focus on the display of documentation about Istanbul, introducing certain historiographical implications of the city through visual representation. In addition, the various selected interventions from contemporary art and design will be put forward to highlight the contested processes of urban change and contributions to the fruitful discussions on informal placemaking as put forward by these practices. This presentation argues that informal placemaking is a powerful tool for community development and urban planning. By showcasing exhibitions and artistic interventions, the presentation will explore how these actions generate knowledge about urban spaces, challenge existing ideas about the city, and inspire new visions for its future.

In this context, a Special Issue of the Journal of Urbanism titled 'Informal Placemaking. Social Activism and Practices of Art and Culture' co-edited by Ayse Erek and Katalin Krasznahorkai will also be presented, as part of the outcomes of collaborative work at COST Action.

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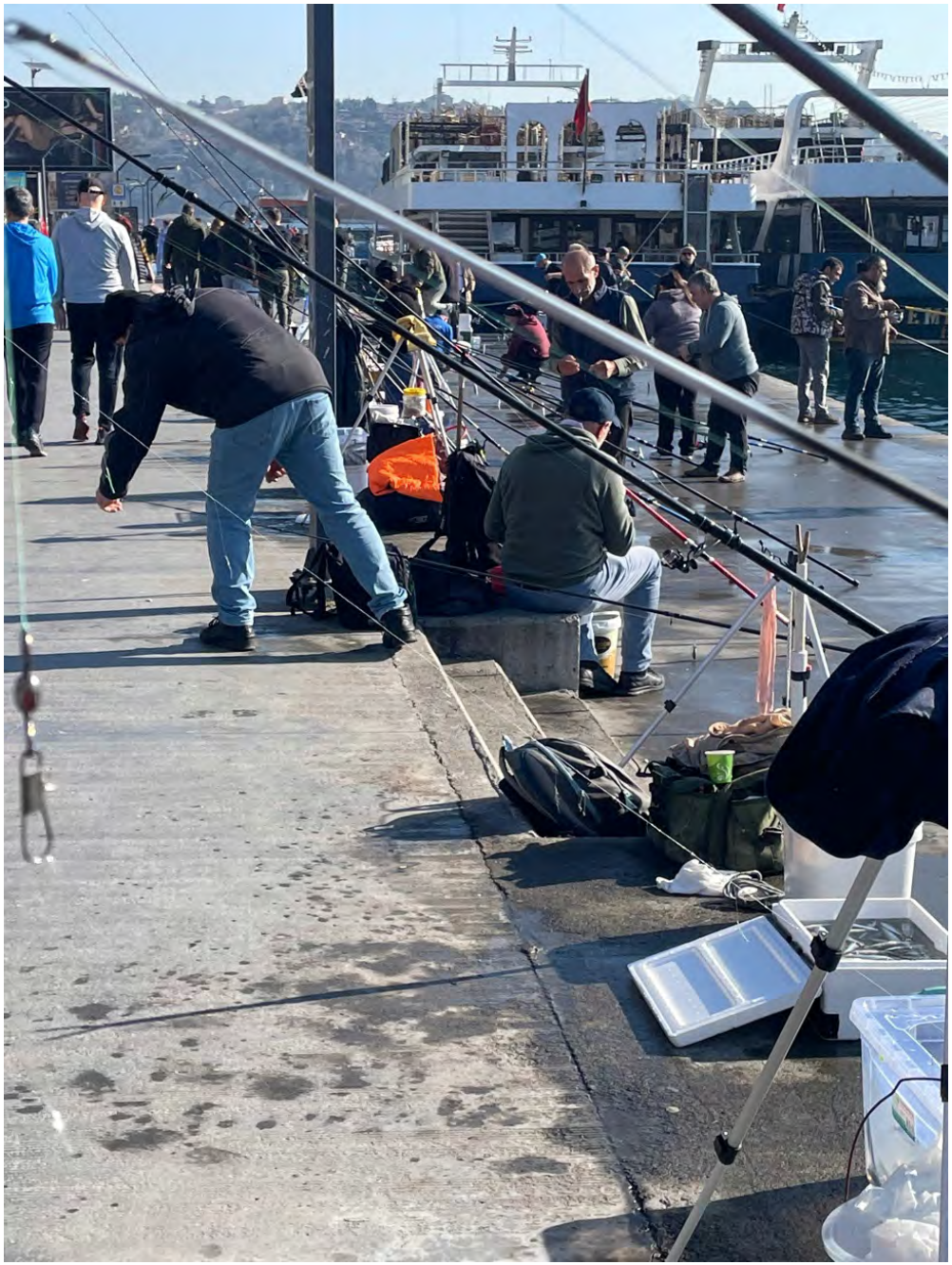

Fig. 1.
Waterfront interventions of the fishermen in Bosporus, Istanbul. Credit: Ayse Erek

Diverse Placemaking and Gender Inclusive Practices

*Ramona Mihaila**

Abstract

With growing evidence of social institutions furthering an interconnected notion of normatively gendered behaviour and differentiation across urban space, there is a pivotal need for comprehending social stratification in relation to particular urban gender roles and ethical identities in placemaking processes.

This article intends to show that the urban gendering of ethical citizenship, civic spaces, in addition to the civic institutions of urban performance, are pivotal in gender unfolding throughout socio-political power, and contributes to the literature by indicating that gendered relationships enable the organizing principles of spatial urban performance and placemaking processes. It also underlines the fact that the intricacy and multifaceted character of gendered meanings, networks, and ideologies of urban geography, together with gender politics, codes, positions, roles, and relations, shape the spatialization of urban etiquette.

The target audience for the dissemination of the results falls in two groups, as it is stipulated in the MoU: the first group includes researchers working within the field of urban studies or related fields, for whom issues of placemaking, urban agency, digital agency and citizen's knowledge are of relevance (e.g. urban planning, media studies, digital humanities, urban history, anthropology, human geography, cultural studies, respectively gender studies). The other group includes policy makers on European, national and regional levels, journalists, NGOs and other practitioners (e.g. urban activists, municipalities working with problems related to place -making and policy makers, governmental bodies, as well as the general public.)

For researchers, both the theoretical and methodological innovations of the COST Action, the detailed and in-depth researched case studies and the general insights and knowledge generated by the Action's research will be highly relevant. For policy makers, practitioners and the public, especially the general background information, presentations of case studies, reports of progress, general knowledge and insights generated, and policy recommendations will be relevant.

The article proposes an important and innovative concept that extends discussions about public space from the perspective of the safe living environment for social interaction (work/lack of work and daily interactions) and socialisation (business and entertainment) in urban development to include gendered knowledge within our current knowledge about urban and city space.

Women face multiple forms of discrimination in their everyday lives, such as an increased risk of poverty, gender based violence, suffering from unequal power positions, and limited access to resources. Women are the main victims of sexual harassment and other forms of gender-based violence in public spaces (ranging from unwelcome sexual remarks, molestation, rape and femicide), in both urban and rural settings. These practices take place more often than reported and as such reduces women's freedom of movement and participation in school, work and public life much more heavily than other vulnerable groups. For example, many women do not even access essential services in relation to health and education, or enjoy cultural and recreational activities due to these negative acts that take place within the public space (UN Women; https://UN-Women-Flagship-programme-Safe-cities-public-spaces-en.pdf). Fear of being a victim is generally 10-15 percentage points higher in women than men and 50% of women reported feeling unsafe in 'vulnerable areas' (https://urbact.eu/articles/gender-sensitive-public-space-placemaking-and-spatial-justice-through-perspective-gender)

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The creation of inclusive and safe spaces for all individuals regardless of their gender, ethnicity, disability, age, etc. is paramount. Research shows that men and women have different perceptions of safety in public spaces. Therefore, it is crucial to consider women's perspectives when designing or recreating urban public spaces to ensure inclusivity and welcoming everyone in society. Gender-balanced placemaking needs in-depth research on factors determining safety perception in public spaces and tools to measure the presence and impact of these factors. By signing the 2030 Agenda for United Nations Sustainable Development, world leaders pledged to eliminate poverty, reach those furthest behind, and achieve gender equality, and empower all women and girls (Goal 5). They also committed to addressing the need for adequate, safe, and affordable housing and basic services among slum dwellers and those living in informal settlements (Goal 11). (https://unhabitat.org/harsh-realities-marginalized-women-in-cities-of-the-developing-world) In addition, public facilities should cater to diverse needs of individuals of all genders. For example, changing tables in restrooms, nursing facilities, provide proper lighting in public areas and seating options that suit different needs and preferences. Progressive placemaking aims to create safe and accessible public spaces that meet the needs of vulnerable groups. Although various European cities have studied women's or other vulnerable and marginalised groups' exclusion from public spaces and implemented projects to address these shortcomings, these efforts usually remain separate and uncoordinated. Therefore, this article seeks to develop a more people-centered approach to urban design that fosters inclusive and accessible urban communities.

Specific rules of power fashion the gendered map of urban landscapes, and thus the social construction of gendered patterns and gender divisions, composition and performance develop the gendering of spatial organizations and the construction of gender and of the social relations of sexuality as an urban performance and placemaking process. Further developments will clarify whether gendered power relations, norms, and institutions can be articulated and configured within deeply inscribed contexts of urban performance, thus normalizing sexual identity, social distinction, and reshaped behaviour.

The article will analyze the Action's scope and contribution to international and interdisciplinary research on urban studies, placemaking and cultural studies, respectively gender studies. The article will develop and facilitate the discussions on the practices of 'safe placemaking', signifying the term and the practices related to 'safe placemaking' through which social, cultural, or ethnic groups shape their environment. The article will support increasing the visibility of the Action to wider audiences including different stakeholder described above. It will also target the relevance and significance of the practices that are defined as neither DIY practices, nor interventions, and emerge from daily life, maintaining a comparative perspective by case studies, emphasizing the significance of informal practices of placemaking for lively urban environments.

The article will discuss the topics described at the MOU: the impact of digitization on the common placemaking practices of urban local communities, the changing processes of citizen´s local knowledge production of placemaking, the influence of digitization on the governmentality of the local neighborhoods and co-creation of public space by various societal actors.

Augmented Soundwalk as a Transversal Tool

*Cristina Palmese**

Traditionally, we have measured the city (in meters, decibels, lux), or we have described it from a sensitive subjectivity (see, narrating it, painting it, singing it...). We have projected it numerically (technically), or according to cultural, patrimonial, or social considerations. But what tools do we have to propose a new and necessary transversal view? This research addresses how to produce a moving understanding of urban space. It explores the relationship between users, practices, urban space, and architecture, and examines methods, techniques, and strategies that seek to understand the heterogeneity and fluidity of urban environments in imaginative ways by combining quantitative and qualitative data. In this approach, concepts such as context, body, listening, and soundscape in situ are explored from different perspectives, including creativity. It also discusses the action and representation of technologies for a sensuous urbanism. In the last century, avant-garde movements that explored forms of anti-art, such as Surrealism or Dadaism, developed collective practices of understanding and experimenting with the city through walking, but it was only the Situationist movement that directly involved architecture and the urban project. The consideration of the impact of architecture on people's lives transformed the critique of architecture into a critique of life in general. Guy Debord and the Situationists, through the theory of psychogeography, proposed a combination of art and technology for the integral construction of an environment in dynamic relation with behavioural experiments.

Hildegard Westerkamp, who was part of the World Soundscape Project team in the 1970s, formulated the first soundwalking proposal through a site-specific. Now, 'Soundwalk Augmented,' is an innovative technical and aesthetic exploration method designed to gather both qualitative and quantitative data about urban soundscapes. As "qualified time" (in the words of the French philosopher Jean-François Augoyard), sound expression provides us with a dynamic image of each place, in which the "material" or spatial context acts as a sounding board for the everyday situations that give life to that space The soundwalk, with its several complementary techniques, is one of the most complex tools for exploring the city's soundscape. This potential of the soundwalk is also captured in the ISO standard, which recognizes in a more technical framework the soundscape as "a sound environment (or sonic environment) with emphasis on how it is perceived and understood by the individual, or by a society" (ISO, 2014).

The main aim of the soundwalk is to gather the sensory experiences of the citizens on the spot. During the walk, any suggestions, comments, and representations from the participants will be collected. The ideas shared will revolve around their wishes, memories, rhythms, and urban choreographies. This can lead to a possible urban transformation that aligns with the goals of creating more liveable and sustainable spaces within cities. The aim is to encourage citizens to be more active and aware of their surroundings while experimenting with strategies to involve them in the process of constructing the public space.

We propose two typologies of soundwalk: **Augmented Soundwalk 1** Technical/Aesthetic exploration (90 min.): these are more limited explorations, with the double purpose of collecting qualitative and quantitative data (recording sounds, collecting visual, text and commentary via individual stops in the walk...). The subjects are supported by a questionnaire-guide (Google Form), intended for the exploration of specific points of the walk and for subsequent digitization. **Augmented Soundwalk 2** Explorations and actions of long duration (6-7 hours): to tour the space for a long time, altering the routine in the space through actions with a varied group of volunteers (citizens, artists, researchers). Requires a previous analysis of the space to be explored, interacting with the occasional users of the public space with random interviews and/or inviting them to participate in the actions. This form arises from the situationist approach, with a group of volunteers built via an open call, and with the objective of understanding through the act of sharing of a public space its characteristics and eventual problems, but also from a relationship with the context through the imagination, sound experiences, daily experiences, happenings, and casual encounters with the inhabitants. For this journey, we can synthesize Careri's proposal of "losing time to gain space". The results of this tour/happening will be compiled at the end of the session. The plurality of results (videos, recordings, interviews, stories, drawings, photos…) will be shared and analysed in a second session, to be later geo-localized in a layer of a map of the area of the tour, to map ourselves, our communities, and our surrounding environments.

We have conducted two soundwalks 1 , one in Madrid and the other in Istanbul where we are complexifying the methodology by combining the audio-visual perception . Fig. 1 and Fig. 2

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Fig. 1.
Puerta del Sol, Madrid.
Cristina Palmese 2023

Fig. 2.
Eminönü Square Istanbul.
Cristina Palmese 2023

Inclusive placemaking for enhancement and protection of historical sites

*Marichela Sepe**

Placemaking, as defined by the CABE (2000), is "the art of making places for people". Inclusive placemaking adding a widely meaning to this definition, namely, placemaking is the art of making places for All people in a vision of both equity and inclusion but also flexibility and adaptation (Sepe, 2023). For an inclusive placemaking, suitable co-design should be carried out, involving all the subjects interested in the transformation of an area. Starting from these premises, objects of this research, carried out in the framework of Prin 2020 research project titled SUMMA #20209F3A37, with author responsibility of the Urban Impact Unit, include: create a methodology capable to meet the increasing needs of more inclusive public spaces in terms of accessibility, safeness, and enjoyment of heritage, and experiment it in emblematic case studies. Accordingly, an emblematic case study, carried out in the framework of both COST Action CA18204 "Dynamic on placemaking" and Prin 2020 SUMMA is the Parc Rives de Seine, Paris, whose results will be described.

The original methodology which was used is the Dynamic Place Method (Sepe, 2023) that in nine phases constituted by surveys, analysis and questionnaires identifies and designs places with multiple kinds of risks. I will illustrate the phase of design, namely 7,8, and 9.

The seventh phase consists in the creation of a mosaic map where the present risks, people's perception of them and the qualities of the place, resulting from the previous phases, are indicated. The present identified risks include: the risk of flooding, due to periodic flooding; the anthropic risk due to mass tourism; the identity risk, due to the inclusion of equipment and small buildings that do not pay attention to the identity of the place; and finally the urban discomfort risk, due to the presence of few accesses suitable for elderly and disabled people, the lack of differentiated pedestrian and cycle paths, few shelters to protect from particularly unpleasant climate conditions. Regarding the perception of users of places (questionnaire of project), from the answers provided, the risk they perceive mainly concerns the risk of urban discomfort. During periods of the year when the climate is particularly mild, the riverfront is widely used by locals and visitors and the lack of differentiated lanes for different physical activities can make the use of the area unsafe. Another observation from the interviewed concerned the accessibility, which is not comfortable for everyone, while a low percentage of people observed the presence of few possibilities for public sittings. Regarding qualities, first the banks of the Seine are a UNESCO site in their entirety, which implies an overall beauty of the area. The qualities concern various factors which include: the presence of a flat route which allows for easy practicability and the possibility of planning different activities in a flexible manner; the presence of various leisure facilities; the presence in some stretches of meadows and trees; perceptive visions of buildings and places of cultural interest such as the Notre-Dame Cathedral, the Orsay Museum, Les Invalides, the Eiffel Tower, the Louvre Museum, and the Seine; the presence of historic bridges such as Pont Neuf, Pont de Sully, Pont de l'Alma, Pont Royal, and Pont de la Concorde.

Phase 8 is carried out through observation of the multi-risk map/mosaic and involves the identification of dynamic areas, i.e. the areas whose functions are more flexible to a resilience and improvement/enhancement project. As regards the flooding risk, flood protection could be created in all the edges near the river in respect of the historicity of the area. Compared to other risks, the entire area can be considered flexible and adaptable to different uses. As aforementioned, the area has not height differences, is seven kilometres long and has a large section that allows for a variety of uses aimed at greater comfort and respect for the identity of the places. As regards accessibility, however, accordingly with the urban discomfort risk, the parts to be improved are close to stairs and bridges.

The last phase (phase 9) of the method concerns the identification of project interventions aimed at mitigating risks and, at the same time, enhancing the resources of the area. The

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first intervention concerns: Install flood protection. Even if floods are not frequent, when these happen, these constitute a risk to places and people. The creation of protections, even temporary, along both banks of the Seine, are an important element for the safety of this place. The second intervention concerns improving accesses. There are many accesses to the riverfront, but few are suitable for disabled people or elderly people. Creating or improving access for use by all people is necessary to enable equitable use. The third intervention concerns differentiating paths for pedestrians, cyclists, etc. The Park is widely used especially in periods when the climate is milder by pedestrians and people who use various slow mobility means of transport. Since there are no differentiated lanes, situations of danger can arise as the same path is used by pedestrians, cyclists, skateboarders etc. The creation of lines dedicated to different users can make the use of this place safer and more liveable. The fourth intervention concerns Inserting public sittings. Indeed, there are few public benches along the riverfront for people who want to stop and take a break. The inclusion of movable chairs and benches with materials and designs in line with the identity of this place would improve the comfort of this site. Finally, the fifth intervention is to create shelters for periods of harsh climate, both cold and hot. Shelters from high temperatures which are currently present in the study area consist of the shade of the trees and umbrellas placed near the deckchairs, but there are no shelters that can provide further protection from the cold or rain. The creation of mobile shelters with a design in line with the identity of the place would improve, like the inclusion of public seating, the comfort and liveability of the park.

Acknowledgments

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Inclusive placemaking for enhancement and protection of historical sites

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The DYNAMO-DYNAMic Place Design MethOd (Sepe, 2023), carried out in the framework of Prin 2020 SUMMA #20209F3A37, is a method that analyzes the elements and risk factors of a place - in particular public spaces - the perception of the same by its users and the qualities of the site and identifies policies and/or design interventions for its protection and/or improvements. Attention is paid at detecting both the material and immaterial aspects of the place in question in order to transform risks into opportunities for valorising local resources in a both equity and inclusion perspective. The final products are two dynamic mosaic maps: the first returns risks, user perceptions and local resources, the second identifies inclusive policies and interventions of protection/enhancement. Many case studies were carried out, in the framework of Prin 2020 SUMMA and COST Action CA18204 "Dynamic on placemaking", in Europe and beyond to both test and verify the DYNAMO method.

Case studies

Kobe

Kobe

San Francisco

San Francisco

Phase	Objective	Actions	Product
1	Identification of single "urban" risks	Observation of the places	Mosaic of the single risks
2	Analysis of factors contributing to the risks	Identification of the factors	Mosaic of concurrent risk factors
3	Analysis of the effects due to the coexistence of risks	Observation of the effects	Mosaic of effects
4	Risk perception questionnaires	Questions asked onsite to users of places and social network analysis	Mosaic of risk perception by place users's
5	Analysis of plans/ projects/programmes/policies for adaptation	Identification of projects and plans that provide for adaptation to risks	Mosaic of plans/projects/ programmes/actions
6	Analysis of potentialities and qualities	Identification of factors which contribute or can contribute to the quality of the place	Mosaic of the quality elements from the urban point of view
7	MultiRisks analysis	Identification of all present and probable risks, related factors, user perceptions, quality of places	MultiRisk map
8	Flexible area identification	Identification of areas with potential flexible use	Mosaic of flexible uses
9	Multiadaptation project interventions	Identification of project interventions of adapatation/enhancement	Multiadaptation Map

Case studies

Paris, Reive de Seine

Paris, Reive de Seine

Paris, Reive de Seine

Paris, Reive de Seine

DYNAMO Method scheme

Guide lines

1. The multi-resilience/adaptation project should be understood with a holistic approach.
2. The identification of risks and possible damages must take place with reference to multiple potential events that can occur simultaneously.
3. The perception that the population or, more generally, the user of a place has, is a fundamental element in the study of dangers and risks and must be detected through ad hoc questionnaires.
4. Fragile individuals must be given particular consideration both for the detection of their risk perception and for the adaptation project to them.
5. The importance of the urban qualities of the place - cultural heritage, materials, equipment - are elements to be considered in multi-risk multi-adaptation projects/policies, in order to transform them into opportunities to improve liveability.
6. The multi-resilience/adaptation project must be constantly monitored in order to predict sudden events and be able to react in a sustainable way.
7. Flexibility is one of the essential characteristics of the multi-adaptation project and must be understood in an inter-scalar (from the building to the city) and inter-factorial way, integrating urban, socio-economic, cultural and environmental aspects.
8. A multi-resilience/adaptation project cannot be used anywhere even if characterized by the same risks, but must be implemented respecting the different characteristics, as each site (historic centre, suburbs, regeneration area) has its own peculiarities to consider.
9. Communication of hazards and risks, as well as projects, plans and policies for multi-resilience/adaptation must be done appropriately for all ages and abilities.
10. New technologies must be used to support both risk and hazard communication. And the disclosure of all the measures adopted or to be adopted in the event of crises of various kinds should be clearly and widely illustrated through ad hoc web portals, apps, social networks, sensors, interactive maps.

The Dynamics of Placemaking: a transdisciplinary COST project

*Zsuzsanna Varga**

COST Action 18204 Dynamics of Placemaking and Digitisation in Europe›s cities focuses on historical and contemporary placemaking in European cities, whilst considering the diverse uses and impacts of digitisation in the placemaking process, including enabling, documenting and engendering such activities. The Action, starting in November 2019 and coming to close in May 2024, provides a platform and networking opportunities (rather than explicitly financing research) for a group of 100 researchers from European universities, as well as practicing urbanists and architects based in Europe whose collaborative work has opened up new ways of thinking about teaching and practicing scholarly urbanism. During over 4 years of intensive collaboration, several themes have emerged, which engaged researchers previously not working together. These include citizen participation and participatory budgeting in urban administrative decision making; the conceptualisation of safety and security in urban public spaces, with an explicit intention to influence urban planning with regard to the diverse – and often conflicting – needs of different citizen ethnographies; ethnographic research in different migrant communities settled in European cities. Collective memory and the contemporary reuse and reshaping of neglected urban areas or the reuse of politically highly charged urban districts were one of the many foci of our research. The use of artistic practices for urban redevelopment – whether it is public sculptures or bottom-up citizen participation using non- professional artists – was one of the many areas of enquiry. Within these enquiries, gender played an overarching role.

Our practice as professional urbanists and educators of urbanism has been much improved, and sometimes challenged, by some of the methods we learnt form each other. The role of the 'sound' in urban experience was brought to our attention in 'soundwalks' whose methodology was taught to the members of the group. Textual culture – literary texts, travel writing and other forms of the 'placemaking of the mind' – was introduced as a tool of shaping urban experience, which we observed during city walks linking the perspectives of tourism and urban development. University lecturers from different disciplines (art history, urban planning, architecture, ethnography, sociology) have created a learning environment for each other where we could share our pedagogical practices and experiments with each other. This knowledge sharing extended to sharing lesson plans and assessment types but we also shared syllabi and extended course description. Sharing pedagogical strategies that involve student focused collective learning as well as new perspectives like the inclusion of sound showed that collective learning is something academics can also practice.

'Smart cities' was never part of our remit, hence the engagement with the 'digital' took a range of different forms: citizen participation projects used the digital for encouraging and managing it, while other projects focused on engaging students for more active participation with the help of the digital. The tools provided by digital developments (GIS) enabled the simultaneous use of publicly available digital data with ethnographic research.

Core to the work of COST is international collaboration and the co-creation of scholarly intelligence, which only emerges from co-designed and co-conducted scholarly projects. Our success is manifest in the volumes published by Brill, *Placemaking in Practice*, whose three volumes focus on practice, engagement and theory of placemaking. Other publications include special issue of *Urban Planning* (2024, vol. 9) and *EuropeNow* (2021, issue 41). These open access sources demonstrate that collaborative work across geographical boundaries, disciplines and levels of experience opens up previously unseen synergies and research opportunities.

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Special Workshop
Inclusive city Ecosystems

Coordinator
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Incubators of bottom-up participation processes as support tool for urban planning

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Urbanization, population expansion and other factors are making cities and their citizens more susceptible to social and environmental changes. By fostering the development and the sharing of local knowledge and by fortifying links between citizens, participation improves the social sustainability. Additionally, the concept of "collective intelligence" may be strengthened via the involvement of a varied range of stakeholders (1). The 2030 Agenda states that "participation in the systematic monitoring and verification activities carried out by all States will contribute significantly to success and will enable countries to monitor maximum progress in implementing this agenda" (2). While some urban planning specialists may not always view participatory methods as essential or necessary, others, like Leonardo Tedeschi (3) think that communities may benefit by improving the urban planning project. The time spent on civic engagement activities results in time gained for projects by solving issues and satisfying citizen's needs, and the efforts of previous initiatives can be utilized for upcoming projects (3). The interactions between various stakeholders in medium-big sized cities are frequently linked to an exogenous influence system concerning the city's administrative policies. Interesting insights into the cooperation between governments, citizens and other stakeholders can be gained from the two case studies of Varese (Collettiva) and Bologna (Fondazione Innovazione Urbana "FIU"). This study's goal is to investigate Varese and Bologna, two Italian cities, as examples for the engagement in innovative processes. Since 2020, Collettiva (4) has been an active resilience movement in Varese that supports civil resistance tactics in the social, urban, cultural, and participative sectors. Collettiva's aim is to revitalize Varese by implementing community-focused initiatives, fostering fresh approaches to integrating the city's residents, territory and government and creatively advancing ideas to offer every citizen a voice and make them feel like they are part of the city. In this situation, Collettiva improves participation and involvement, resulting in a bottom-up and inclusive social movement. Collettiva's goal is making a community resilient to the difficulties and advancements of a new metropolis. Among the various initiatives there is the "mutual aid" action to support the homeless by raising funds for a local association; "Tre Pomeriggi" action on three themes "environment", "culture" and "social" asking citizens to give their contributions, resulting in a public meeting aims at reawakening the citizen sentiment about the city value and on participation; in September 2022 the Mini-festival with a panel of different topics and repeated in 2023 as three days of "active political school". FIU (5) founded by the Municipality and the University of Bologna as an evolution of the "Urban Center Bologna Committee", already active in the same field since the early 2000s, is an organization aimed at promoting dialogues between citizens, institutions, businesses and associations by implementing participatory processes within urban transformation policies and projects. The FIU's aim is the realization of projects and policies on all territorial scales, from the district to the metropolitan scale, using a wide range of tools and envisaging different levels of involvement of the actors (Information and communication, public meetings, questionnaires, moments of co-design, tactical urban planning interventions). FIU is involved in many urban and mobility planning projects, such as the elaboration of the plan "Bologna città 30", the "General urban plan" or the realization of the new tramway line, with the aim of gathering citizens' needs as well as explaining to them how urban plans work and how their needs are implemented in the project. The work of the FIU also concerns urban development projects, strategies, and policies such as the implementation of 'participatory budgeting', the implementation of carbon neutrality action plans or projects of a social nature such as 'neighbourhood schools' and 'neighbourhood workshops'. Even though participation processes take time to implement, the two examples of Varese and Bologna highlight how cities can still use citizen collaboration to build a stronger and more inclusive urban society. These practices also highlight the possibility of inclusion which increases benefits for the community and the surrounding area. Considerino this research, we aim to offer

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Fig. 1.
Fondazione Innovazione Urbana - Public call to action for climate change. Source: Fondazione innovazione urbana (LinkedIn page).

Fig. 2.
Collettiva Varese - The Green City. Source: Instagram page of Collettiva.

a decision-making support that can be replicated in different contexts and to support organized participation in resource management and urban planning can be built. We believe that cooperation amongst diverse stakeholders offers the benefit of fostering and combining diverse resource types, combining the unique expertise of individual players, including human capital, financial resources, techniques, and local knowledge.

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Make cities inclusive trough proximity public spaces and local centralities
Comparing perspectives

Maria Teresa Lombardo, Francesca Paola Mondelli**, Sharon Anna Somma****

Introduction

Contemporary urban landscapes, which are increasingly sprawling and multifunctional, are undergoing continual processes of densification and reconfiguration. In the contemporary urban context, public spaces become key elements of closeness, connection, and integration, encapsulated in the overarching concept of "proximity." In Europe, where urban regeneration processes are predominant, the design of nearby public spaces becomes essential to ensuring the success of comprehensive development strategies. Drawing on a range of experiences from various urban contexts at the local level, this paper seeks to affirm the idea that establishing local centralities necessitates a reconsideration of proximity public spaces. These spaces should be conceived as intricate and multifaceted systems capable of drawing in diverse populations throughout the day, ensuring high levels of accessibility, safety, well-being, and comfort.

Reggio Calabria

An intriguing case study is the waterfront of Reggio Calabria, a southern Italian city renowned for its close connection to the sea. Its layout, which began to take form following the 1908 earthquake with the De Nava Plan (featuring two parallel streets separated by a railway line, situated at different elevations with a central area dedicated to extensive green flowerbeds), underwent significant transformation starting in the 1960s. During this period, plans were made to lower and bury the railway line within an artificial tunnel. The strategic significance of this project within the broader context of area regeneration in recent years has transformed the waterfront into a genuine local hub, capable of fostering positive processes of social innovation. Through the creation of morphologically and functionally diverse yet interconnected spaces, the new social nucleus integrates various functions (recreational, leisure, commercial, etc.), ensuring a constant flow of visitors. The layout of pathways is meticulously designed to maintain a sense of design continuity and to prioritize the safety of individuals, who emerge as the true protagonists of the entire projects. Innovative architectural solutions not only prioritized safety but also focused on enhancing well-being and comfort. The lower section seamlessly connects to the upper part through plazas and elevated pathways, ensuring accessibility for all. Furthermore, two prominent projects flanking the waterfront to the north and south—the multipurpose center and the Museum of the Mediterranean, designed by Zaha Hadid Architects—capitalize on the unique position along the "stretto", effectively serving as the focal points of the area.

Roma

The example of Reggio Calabria highlights the importance of integrating, within a public space aspiring to become a "hub," both the formal aspects of the design and the intangible aspects related to its use, condensing activities and functions. In the dialectic between planning and design, function and form, there has long been debate over the primacy of one aspect over the other, often leading to conclusions that, beyond disciplinary debate, advocate for convergence rather than opposition. Indeed, practical experience has shown the essential nature of addressing both aspects in the construction of urban public spaces. In the 1990s, Rome's Urban Redevelopment Program "Centopiazze" aimed to transform the city as a whole through the tool of public space design, while maintaining a firm commitment to not lose sight of urban planning objectives. On the contrary, it aimed to anticipate regenerative processes of greater resonance. The concept of creating centralities through public space design, as advanced by the Centopiazze Program, which favored the archetypal form of the square but also extended to thoroughfares, gardens, and parks, should have found, at the planning level, its counterpart and reinforcement in the system of 'local centralities' introduced by the PRG approved in 2008 (art. 66 NTA). These local centralities, in turn, emphasized the intention to promote, construct, or enhance neighborhood identity, including (but not limited to) through public space projects. However, the gap between these two systems, which did not align actions in the same places, resulted in a weakness in both public space projects, lacking an urbanistic structure of services and urban functions, and in the local centralities envisioned by the PRG, lacking a tangible design that would trigger the transformation of space and activate city revitalization at the local level. From these experiences, there now emerges an awareness of the need for integrated design, capable of combining the 'physical' transformation of public space with the incorporation of functions and uses that give

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substance to proximity spaces. These are the places where daily life unfolds today, with a perspective of greater sustainability, accessibility, and subsidiarity.

San Severo

As an example of design application on this issue, the task of updating the 'Programmatic Document for Urban Regeneration' of the urbanized area of San Severo (Puglia), led by Studio Coffice (fig. 1), has among its main objectives the strengthening of urban regeneration through social inclusion and environmental sustainability. The criterion involves the initial recognition of a centrality around which to develop a system of relationships and connections: a network of public spaces and services that give life to local centralities, articulating a polycentric city within a unified urban system. Centralities play a primary role in the daily lives of residents due to their quality and social, functional, and aesthetic appeal, causing residents to perceive them as emerging elements in the urban landscape. An example of the methodology for identifying centrality involves understanding the existing strengths and weaknesses with reference to the social, functional, and aesthetic values of services and spaces (identifying critical issues and opportunities). The attempt to identify 9 local centralities within the consolidated city and to designate the historic centre as a local centrality aimed to trigger a process of political and economic interest through proposals for the redevelopment of existing public spaces and the establishment or reactivation of economic activities.

Conclusions

This contribution has presented some case studies of local-scale urban projects and policies that have promoted the construction of local centralities through public space design. The overall objective is to assess how much the public space project can affect in enhancing proximity in the contemporary city. As a result it can be stated that, for the achievement of good urban quality and its continuous monitoring, it is necessary to work at the small scale, where local centralities are identified: these are the systems of spaces and services where the qualities of welcome, urbanity and beauty are concentrated and most evident (P.Colarossi 2014).

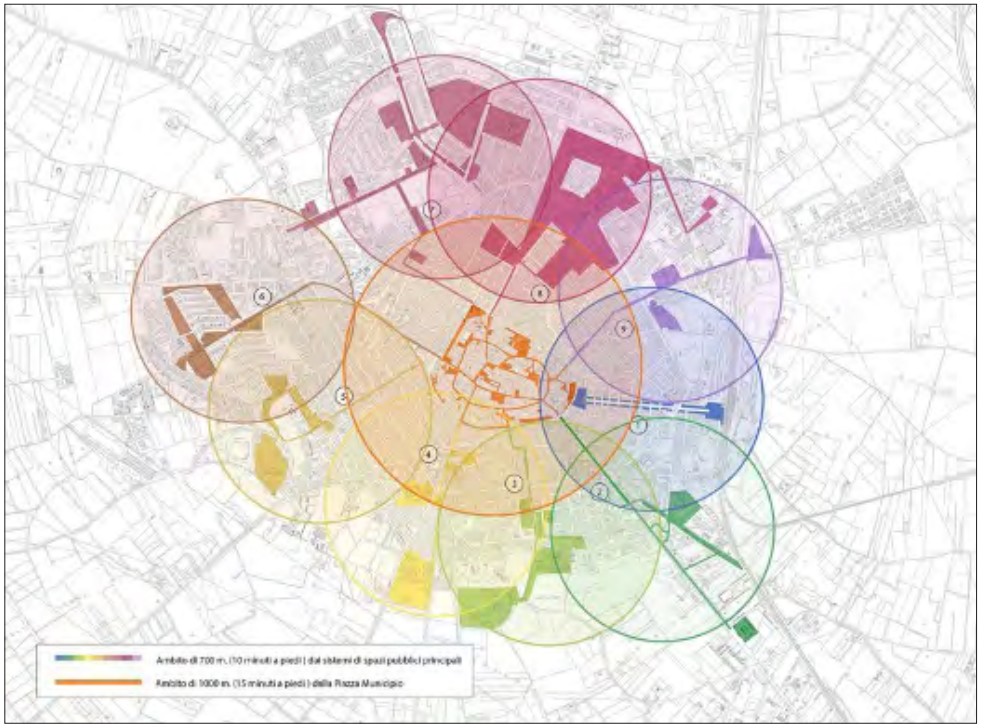

Fig. 1.
Documento Programmatico di Rigenerazione Urbana - Schema delle Centralità Comune di San Severo.

Gamifying & AI: A synergistic approach to inclusive and sustainable community planning

*Nicole Pascucci**

Nowadays urban planning must address the challenge of creating sustainable and inclusive communities in which all citizens can actively participate in and benefit from urban resources. One innovative approach is to transform urban design and planning by creating accessible and welcoming spaces that reflect the diversity of the community. In this framework, *Gamification* emerges as a central element, revolutionizing community involvement in decision-making and incentivizing active participation to design inclusive and sustainable public spaces (Rizzi P., 2004; De Nicola A. et al., 2020), encouraging innovative ideas and fostering a sense of community ownership. Indeed, thanks to the various *Gamification* mechanisms that can be used, such as the awarding of points, badges or prizes for contributions to urban design, they enable the active participation of the local community, which not only knows the area in detail but also lives it daily (Devisch O. et al., 2016).

The potential of community participation through *Gamification* strategies determines active participation and idea generation for inclusive urban planning. In addition, *Artificial Intelligence* (AI) support can be incorporated into the planning process to optimize the distribution of spaces and support data-driven decisions. The overall goal is not only to create an urban environment that supports the values of equity and inclusion but also to maximize the enjoyment and engagement of players, as well as that of future beneficiaries of the area, by inspiring and capturing their interest. For example, AI can be used not only to analyze large amounts of demographic data (such as those related to income, age, and mobility behavior) but also traffic patterns and pedestrian flows to help design inclusive urban spaces, thus providing insights into designing urban spaces that meet the needs of diverse communities. In traffic modeling, in fact with machine learning and data analysis algorithms, AI can predict traffic patterns in urban areas, helping to plan more efficient road infrastructure, such as smart traffic lights, optimized traffic roundabouts, and alternative routes, to reduce congestion and improve road safety and again, using computer vision techniques, AI can monitor and analyze pedestrian flows in cities, thus helping to design more accessible and safe public spaces for pedestrians. Finally, using AI-based predictive models, it is possible to anticipate the future needs of urban communities and adapt the design of urban spaces accordingly, enabling more sustainable and inclusive urban planning in the long term. AI and *Gamification* can be used to analyze demographic data, traffic patterns, pedestrian flows, and other crucial information for designing inclusive urban spaces, as has been studied at different scales, from campus in a neighborhood to the block, and then compared to the entire city. (Méndez, J. I. et al., 2021).

As Fig. 1 illustrates, the workflow encompasses four stages: identification of urban issues, including analysis of current challenges related to inclusivity and sustainability in urban areas; design of *Gamification* strategies, involving the definition of objectives and mechanisms to actively engage citizens in urban planning; implementation of AI, for the collection and analysis of urban data using AI tools to inform design decisions; and evaluation of effectiveness through pilot studies and results monitoring, identifying best practices and adapting strategies for widespread application in other urban areas. *Gamification* and AI can help optimize the distribution of public spaces in a way that maximizes accessibility and use by all community members, who are consulted and informed meaningfully in planning and design decisions through the incorporation of video game or game elements. (Fox. N. et al., 2022). Therefore, integrating *Gamification* and AI strategies into the analysis of real-world urban projects can improve the inclusiveness and sustainability of urban areas, highlighting community benefits and lessons learned for future applications. Promoting inclusive public spaces can contribute to social cohesion, reducing inequality and stimulating local economic innovation. Exploring the challenges and critical issues involved in implementing these strategies in

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urban planning can suggest solutions and guidelines. *Gamification* will result in positive behaviors and innovative ideas, while AI will support planning with accurate data and spatial analysis. This synergy between *Gamification* and AI will help create inclusive urban ecosystems, providing public spaces that promote diversity and prosperity for all people.

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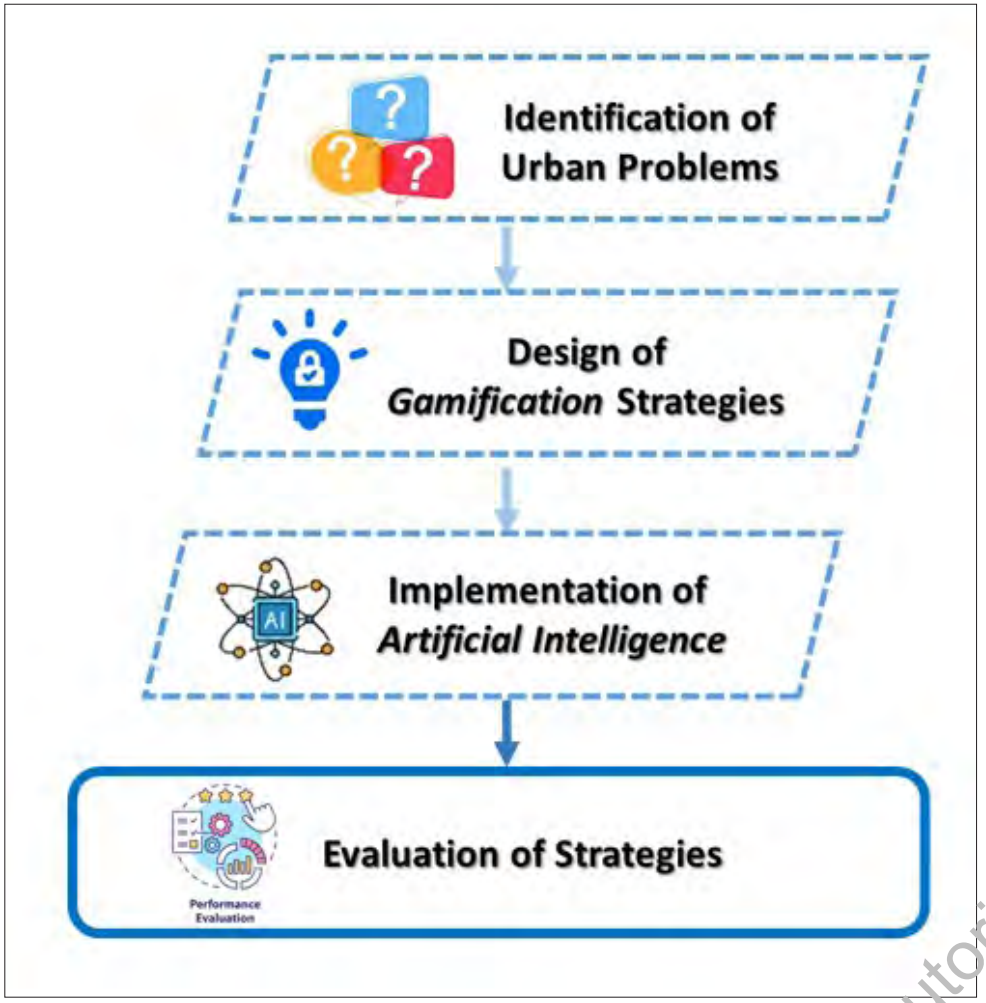

Fig. 1.
General workflow

Urban food forests as emerging inclusive urban ecosystems

Insights from experiences in Sicily and California

*Elisa Privitera**

Urbanization is a major driver of climate change, CO2 emissions, habitat loss, and biodiversity decrease, with these effects impacting urban dwellers unevenly. As a matter of fact, vulnerable sectors of cities suffer the most from climate change-related phenomena, such as heat waves and food insecurity, while animals and plants have to endure reductions in available nutrients. Spatial inequalities are thickly intertwined with interspecies injustice, as the lack of adequate socio-ecological services inclusive of the weakest urban dwellers demonstrates.
However, cities are also at the forefront of experimental solutions and urban planning and design play a crucial role in achieving just and biodiverse urban environments. The debate on urban ecosystem services (UESs) is a step in this direction. Vital for the sustenance of life in urban settlements, maintenance of health, amicable socioecological relationships, social and food security, and overall human well-being, UESs encompass all those green and blue infrastructures and nature-based solutions, such as urban forests, parks, gardens, ponds, small lakes, wetlands, etc., that provide an ecological benefit at the urban scale. Although several scholars have called for including food and multispecies justice quests within the UES debate (see for instance the numerous works on edible urban landscapes and urban agroforestry), both the theories and practices in this field are still minority and not institutionalized.

Food forests (FFs) exemplify agroforestry practices centered on non-human needs and times. FFs emulate natural forest ecosystems to provide food for humans while benefiting other species and the ecosystem as a whole. More frequent in rural areas, lately FFs are spreading also in cities. This presentation discusses urban FFs as inclusive UESs which, despite still emerging, are promising solutions for addressing social and environmental issues within our cities.

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The paper will examine two examples of urban FFs, one in Palermo (Sicily, Italy) and one in Isla Vista (California, USA). They are two cases in point of UESs showcasing potential inclusivity toward both human and non-human communities. Both FFs share common characteristics: they are situated in cities with Mediterranean climate; they are innovative pilot projects that brought about hundreds of species planted in the last five years; they occupy public land and involve several subjects; they have been promoted by grassroots groups that mobilized collective caring actions, converting the FFs into a public space where fostering bonds with other humans and also with other species; finally they are situated in priority neighborhoods. The Palermo FF is located in a low-income neighborhood which, despite being developed along a river, does not have a harmonious relationship with the river's natural ecosystem. The Isla Vista FF is nestled in a college neighborhood characterized by unaffordable housing, high levels of food insecurity, and a few parks mainly having green grass lawns.

These two cases have also several differences. The Palermo FF has been designed with the specific goal of increasing urban biodiversity by creating a hub wherein several species, especially animals, could find a safe home. For this reason, its 800 plants have been chosen to accommodate nests for birds and nutrients for pollinators. On the contrary, the Isla Vista FF was born with the primary purpose of addressing food insecurity, given that the majority of the local community struggles to access affordable fresh food. In other words, in different ways, both FFs address the issue of inclusivity and food justice toward humans and non-human communities. Another difference regards the process behind their realization. The Palermo FF is the result of an initiative promoted by a third-sector association, the Ecomuseo Mare Memoria Viva, which is active since several years in the neighborhood. The participatory workshop to design the FF has mainly involved young architects and activists who were not from the neighborhood. More in general, neither the residents nor the public administration have been involved since the beginning in the design and creation of the FF, and as a consequence, they did not feel any attachment

Fig. 1.
Participatory workshop to design the Palermo food forest, Palermo, 2022. Source: facebook page of Ecomuseo Mare Memoria Viva.

Fig. 2.
Volunteers ploughing the soil of the Isla Vista food forest during a collective care day, Isla Vista, California, 2022. Source: Eco Vista archive.

or responsibility toward it. A key lesson that can be learned is involving from the outset all the potential users and caretakers. Conversely, the FF in Isla Vista has been proposed by Eco Vista a student-community-based and climate-local action-oriented initiative, to the Recreation and Parks District which oversees the maintenance, conservation, and fruition of Isla Vista's parks system. The co-design and co-management of the FF did not happen always smoothly, but conflicts have been generative and represent a model of shared care that stands as another key lesson to learn. Finally another difference regards the ecological water management; while the Palermo FF is designed by following the dryland farming rules, the FF in Isla Vista has been less attentive to virtuous water management and mainly depends on the weekly water supply provided by the park district. Embracing a long-term and deeply ecological vision implies incentivizing low maintenance and independence of the FFs on human help and natural resources.

By comparing these two cases of FFs as emerging practices of inclusive UESs, the paper intends to provide some highlights in order to orient the theories and practices of ecological urban design toward green cities that are first of all based on principles of multispecies and food inclusivity and justice.

Community, Participation and Regeneration: the call for images "#eSeInveceFosse...? Imagine the public space"

Maria Somma, Giada Limongi**, Gloria Toma****

Abandoned spaces and vacant lands in cities represent critical challenges in terms of environmental, economic, and safety management. Their excessive amount arises from several factors such as depopulation, economic crisis, lack of regeneration strategies and ineffective community engagement in public spaces' management (1) (2). However, such spaces can be opportunities for urban regeneration (3), which is a key challenge through the adoption of approaches that actively involve local communities with their "sense of place" and point of view that can guide city design. Sense of place refers to the level of perception, affection, and connection people feel towards the physical attributes and past experiences associated with a specific location (4). The call for images, *"#eSeInveceFosse...? Re-imagining public spaces" launched* by the Youth Lab of INU aimed at collecting illustrations, photos, sketches, drawings, and renderings from citizens who live and perceive abandoned spaces every day and imagining new functions from them. This contribution delves into the context and outcomes of this initiative in terms of places and ideas collected from different target groups of participants. Two key objectives guided the call for images. First, it aimed to stimulate citizens to observe abandoned urban places (abandoned buildings, neglected green areas, underused parking lots, inaccessible places, poorly livable public spaces, etc.) and imagine new public uses by encouraging all ages and backgrounds participants and inspiring their creativity. Second, it aimed to map abandoned spaces of Italian cities (abandoned buildings, neglected green areas, underused parking lots, etc.) as perceived by citizens as well as considering their ideas as a basis for the INU Youth Lab debate. The 40 contributions submitted came from almost all regions, with heterogeneous and original ideas for the reconversion of public spaces in large, medium, and small cities. Designers, planners, children, pensioners, university students participated. Eight contributions were awarded, four of them were linked to the themes characterizing the call: accessibility and proximity, urban enhancement, liveability and inclusion, green spaces and sustainability. The winners of the accessibility and proximity category - Mara Falco, Bruna Schettino and Elisa Vitolo - focused on an underused and car-centric public space close to two schools and which, in their proposal, was reorganized according to pedestrian, cycling, multi-functional, and inclusive use. Gaetano Marcanio won the green spaces and sustainability category, with the idea of transforming an abandoned space into a public green area and recovering the underground building for parking. Federica Pennisi won the livability and social inclusion category by observing an abandoned area in a social housing district where a quality public space represents an opportunity for social activation. Marco Marinone won the urban regeneration category with his idea of "reading islands" by regenerating the courtyard of the municipal library of Casale Monferrato. The winner of the *#eSeInveceFosse 2023* contest is Gloria Toma with a design idea of an abandoned part of the former Tobacco factory in Bari (Fig. 1). The proposal recalls the history of the place as a meeting place in the Libertà neighborhood during the 1950s bringing back the use of public outdoor cinema as a community practice, as an alternative to modern forms of private entertainment. Other special mentions concerned proposals coming from groups of local associations, students, and children to highlight the importance of considering the perceptions and ideas of diverse groups of people in proposing new uses in public spaces. In particular, the participation of local association such as the two rewarded VMK-LAB in Erice Casa Santa (TP) and Co-Creiamo in Favara (AG) allowed to highlight the importance of bottom-up regeneration practices as well as the participation of a middle school class from Pimonte (NA) created an opportunity for children to participate in the debate on urban regeneration. All the submitted ideas have resulted in an interactive map (Fig. 2) of abandoned spaces throughout Italy, by providing the Youth Lab with a valuable information repository for a deeper understanding of Italy's urban landscape

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and its often-hidden potential. Creative representations of potential transformations of these spaces became a starting point for broader discussions on urban regeneration starting from the perception of those who live in these spaces every day.

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Fig. 1.
The proposed idea of an abandoned part of the former Tobacco factory in Bari. Elaboration by Gloria Toma.

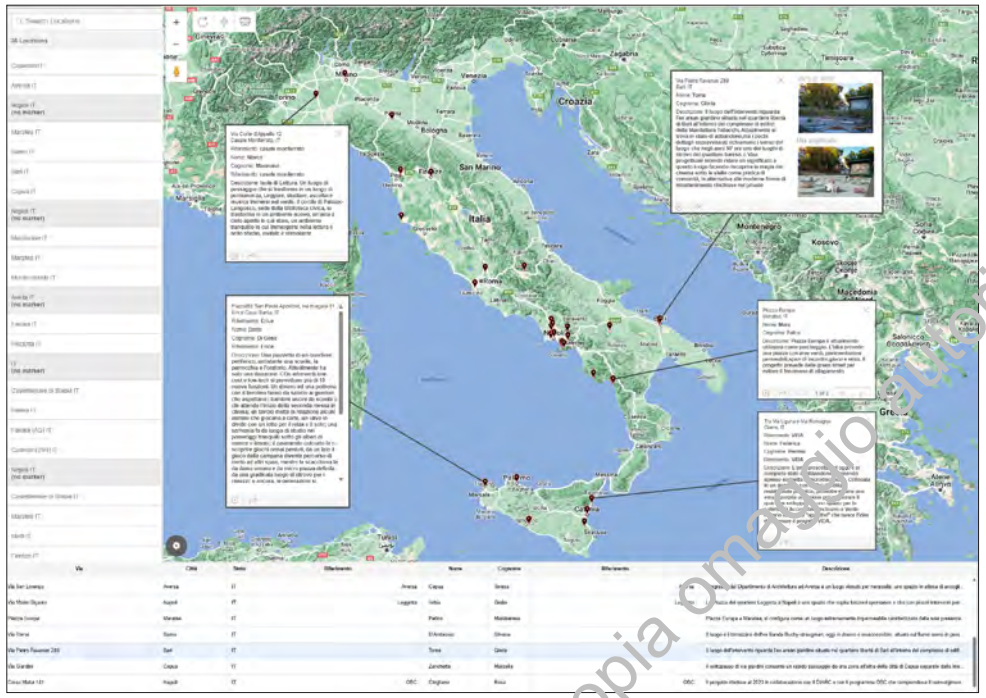

Fig. 2.
Interactive map of abandoned spaces throughout Italy elaborated by the collective data of call "#eSeInveceFosse...? Re-imagining public spaces". Elaboration by Maria Somma

River Infrastructures, Territorial Regeneration and Disaster Risk Management

Giorgia Tucci, Giada Limongi*, Sara Ferraro****

Over the centuries, the largest urban settlements have always been built along rivers due to their capacity to provide essential resources and their role as important communication routes. However, human activities such as land-use transformation, soil sealing, deforestation, and changes in urban hydrology and climate have altered the balance of river ecosystems and increased the vulnerability of urban settlements. As a result, urban and landscape planning acts to rethink the relationship between rivers and human settlements, both defending and restoring river ecosystems and protecting the built-up area from hydrogeological risks, by shifting its attention towards more flexible and adaptive projects[1]. According to the objective of the session of framing ongoing problems into the INU Youth Lab debate, this contribution discusses the outcomes of a thematic meeting of the Youth Lab on the topic of River Contracts (RCs) through a dialogue with some experts and actors of some Italian and European experiences - Tiber (IT), Noce-Sinni (IT), Roia (FR) – to understand how they are applied to different context and what opportunities they represent for the stakeholders who decide to participate in them. River Contracts (RCs) are voluntary plans for protecting and managing water resources and valorising river territories contributing to local development by recognising river basins as providers of ecosystem services and attractors for sustainable functions. RCs contribute to the definition and implementation of negotiated strategies, but their application is strongly influenced by the interested territory. In the French context, the Rivière contract was first conceived in 1981. Policies are developed in consultation with water users such as environmental groups, industrialists, farmers, and consumers within each basin. In the case of the River Roia (a transboundary river basin between France and Italy), a trans-frontier agreement Protocol for the river basin of Roia and its tributaries was drawn up and signed by several French and Italian public and private bodies for the joint management of the river basin. It is home to several French and Italian hydroelectric power stations and is characterised by an exceptional wealth of biodiversity. For this area, vulnerable to flooding and strategic in terms of water supply, the participatory dialogue is conducted within the framework of international relations between the countries involved. The two Italian case studies represent ongoing experiences in two very different territorial contexts: the Tevere RC applies to the final part of the river from Castel Giubileo to the mouth by crossing the municipalities of Rome (capital) and Fiumicino[2], while the Noce-Sinni RC applies to the two basins of the Noce and Sinni rivers and their artificial intersection by crossing a predominantly rural area from one coast to the other of the Basilicata Region (Southern Italy). The Tevere RC promotes integrated and sustainable water management strategies by involving local authorities, organisations, communities, and other stakeholders for the protection and restoration of river ecosystems as well as the improvement of water quality and flood management strategies. Some of these objectives are common for the Noce-Sinni RC, although oriented towards a rural ecosystem and a different local socio-economic system. Noce-Sinni RC enhances the promotion of sustainable agricultural practices and encourages the active participation of local communities in the definition of a water management strategy through the definition of pilot projects and environmental education programmes. This comparison demonstrates how RCs represent adaptive management tools for water resources and river ecosystems within heterogeneous contexts as well as for heterogeneous issues, needs, and aims. In terms of context, the three practices have revealed the potential of such an approach to address transborder issues as well as local problems, however involving local communities. In terms of goals and approach, the strength of RCs is the possibility of addressing the global challenges posed by urbanization and climate change through adaptive and multi-objective tools (restoring habitats, mitigating floods or droughts, improving water quality, and encouraging alternative socio-economic development) Also, the mentioned case studies emphasize the importance of engaging local communities in the planning and implementation of strategies by ensuring the awareness of local communities in recognizing the urgency of adopting sustainable and resilient measures to preserve their own environment.

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Special Workshop

Youthbanism: for a New Generation of Urbanists

Coordinator
Pietro Garau

Youthurbanism: Reviving Planning through the Eyes of the Very Young

*Pietro Garau**

Urban planning is showing increasing difficulties in attracting the recognition it needs to be meaningful, purposeful and effective. Its current practices are seen by the general public as esoteric technical exercises conducted by distant professionals and generating outputs and rules difficult to understand and even more difficult to share. Of course, the societies we live in are increasingly hostile to rules. But part of the reason for this crisis is that planning has lost most of its idealistic thrust and is too often conducted as a tool of a global neoliberal doctrine whose physical component is the organization of space to optimize market efficiency.

Things were not always this way. In fact, physical planning was borne out of a vision for a better world in which all could enjoy healthy and inspiring living environments in harmony with nature. This applied to all social classes; in fact, the best examples of public housing in modern history date back to that period. We have ample proof of this vision in the planned cities, public spaces and neighbourhoods built in Europe and elsewhere between the XIX and the XX century. In particular, the neighborhoods built between the beginning of the twentieth century and the first World War can be seen today as examples of "unintended sustainability". In those times, technological limitations and the scarce numbers of private motorized vehicles dictated the accommodation of rapidly growing urban populations through the design of dense neighborhoods with housing blocks not exceeding four or five floors, ample and amene inner courtyards, an attention to decoration and architectural detail, mixed uses including small-scale manufacturing, pleasant public gardens, an abundance of shops and services of all kinds, and excellent public-transport connections dominated by tramways. As a result, the need for long trips was minimized, while appropriate residential densities and the vivacity of local life encouraged encounter and social interaction. The proof of the lasting qualities of these solutions is that these historical neighborhoods are among the most sought after by current housing markets.

Unfortunately, most of the urban developments over the last eighty years or so abandoned these criteria. Zoning segregated cities both socially and functionally. The dominance of private motorized mobility accompanied by the planned demise of public transport created a demand for infrastructure and parking spaces that desertified cities, setting forth a vicious circle of emptiness and abandonment. The myth of countryside living and the opening of new land for detached-home development through a colossal expansion of road infrastructure created immense suburbs characterized by anonymity and repetitiousness and by an enormous waste of land, space and energy. While these phenomena were particularly acute in the United States, other countries were not immune to this regression. But still our contemporary urban environments, no matter how unattractive they are depicted to be, contain ignored aesthetic social and environmental qualities.

The imperative of saving our planet demands a return to the most environmentally respectful outcome of physical planning ever devised - the city. But in order to support this goal, it is crucial to encourage an appreciation for the unique qualities cities possess and the opportunities they offer for a meaningful social existence. This can be best achieved by attracting the interest of younger generations for their urban living environments. We shall call this approach Youthurbanism.

The youngest among us possess two seemingly unreconcilable virtues that most of us have long lost. The first one is to look at things as they are. The second one is the capacity to see beyond reality and to reach the dimension of wonderment. If we could look at things as they are we might be able to discard the negative urban attributes we often accept as given and inevitable - congestion, violence, ugliness - and appreciate instead

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the unique qualities cities offer us. Among them are the "magic of the ordinary" (the ability to create wonder and surprise even in the absence of outstanding aesthetic attractions); the "miracle of co-existence" (cities' capacity to offer opportunities for social interaction as well as respect for privacy); their ignored and untiring functioning as "marvelous machines"; and their inherent sustainability in their use of space and ecologically sound lifestyles ("cities as environmental sanctuaries"). And the second virtue of the youngest, wonderment, is essential not to take what surrounds us for granted - a tree, a mural, a fountain, a garden, a bird, a sign, a shop window, passers-by, the pleasure to wander and to observe humanity and its mundane creations.

Appropriate illustrative materials are being prepared to encourage young people to appreciate these ignored qualities of cities. The ultimate goal is for "The City"- and sustainable planning – to become a teaching subject in standard educational curricula. Perhaps, this way urban planning and design might find a way to regain their original mission and the consideration they deserve within society.

Teaching Future Generations About the Landscape for Environmental Sustainability

Educational contributions for youth urbanism, from ordinary to extraordinary

*Rosalba D'Onofrio, Giorgio Caprari, Roberta Cocci Grifoni, Piera Pellegrino, Ludovica Simionato, Elio Trusiani**

Amid today's current crises — climate and geopolitical instability, territorial fragilities, environmental emergencies, and the urgency of many transitions underlined by global and local agendas — teaching about the landscape as a common good and place of daily life is necessary to reverse the trends and pursue the principles of sustainability, care for the heritage, and social inclusion.

Based on this, EDUSCAPE 'Landscape and Climate Change Adaptation in Education' (Erasmus +) — developed by the Czech Technical University (CZH), the University of Camerino (ITA), Rey Juan Carlos University (SPA), TU Wien (AUS), and Child Friendly City (CZH) in collaboration with the network of associate partners — presents methods and materials to teach about the landscape in compulsory education (6 to 15 years of age). To this end, the research group analysed various school curricula for different ages in partner countries to assess the possible integration of the landscape in the educational programme, conceived as a key to reading the actual capacity to promote an interdisciplinary, trans-scalar approach. The goal is to: i) provide the tools to interpret the actual situation by presenting a focus on the landscape — with its dynamics, multiple elements and actors, and identifying social role — in different curricular materials; and ii) provide new forms of teaching to learn *with*, *through*, and *within* the landscape. In the early years of education, this topic is currently presented and investigated with respect to its physical/natural aspects, limiting the potential of its many meanings and factors such as the sense of community, perceptual value, and human dominance as a landscape producer and consumer.

The EDUSCAPE project interprets landscape education not as a notion or mere transmission of knowledge; rather, it looks to stimulate students' questions and curiosity to develop critical thought that can mature over time. Speaking of the landscape, climate adaptation, and sustainability/equity of choices in the globalized world — using suitable means for the user/target — means bringing the younger generations to current and future challenges, immediately raising their awareness of possibilities and responsibilities with regard to the surrounding phenomena.

To this end, the proposed learning method is project-based learning (PBL), which consists of gradual/incremental steps, verbal/visual/sensory stimuli, and student–student/student-teacher interactions.

This methodological and conceptual approach represented the starting point for building 15 multiple-topic teaching units (TU), arranged to encourage young people to learn the multiple meanings and components of the landscape while supporting the teaching staff in the educational process, between teaching and education. These materials promote the values that arise from the various activities: from fun/recreational indoor/outdoor activities to listening/interactive activities or the production of textual/graphical/audiovisual content. An attempt is made to hold together the pedagogical/educational value with the social/experiential value of *building a landscape* together. The TUs use different teaching techniques: from drawing to photography, from technical cartography to the geo-digital app, from writing to oral presentations. All the TUs provide for a conclusion configured as a concrete action in the territory, introducing young people to the project and the social role of figures such as architects, urban planners, and landscape planners.

The teachers who tested the TUs at Italian schools associated with the project (I.C. Ugo Betti, I.C. 'Mons. L. Paoletti', I.C. 4 Pescara, Osservatorio sui Parchi e le aree protette del Mezzogiorno – OPM) have thus far positively assessed the experiential aspect of the proposed activities, deeming them to enrich teaching that often does not place students in a condition to present themselves as active subjects for change.

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Fig. 1.
Top, the partnership and goals of the project (a); centre, a summary of the research activities, results, and methods (b); bottom, some images of activities carried out by the students at partner schools based on the EDUSCAPE teaching units (c). Source: Prepared by the authors.

In other words, EDUSCAPE uses the school environment to convey the growing need to renew the human-nature relationship by more or less directly arousing interest in technical/scientific disciplines and the humanities, especially those relating to the territory: the environment, architecture, the landscape. In its own small way, the project contributes transnationally to educating new generations of citizens capable of tracking global phenomena in their own area, with a view to *youth urbanism* and using the acquired knowledge to assess potential design actions.

In conclusion, if the educational and pedagogical repercussions of EDUSCAPE can be evaluated in the time to come, the extraordinary nature of studying the landscape at school can become normalized, especially in Italy, by enhancing the subject of civic education and the virtuous educational path begun in 2018. Judging from the feedback received from schools, the topic arouses particular interest in school children and their teachers, which is essential for it to take root and promote the culture of the landscape and quality landscapes of the future.

Special Workshop
Fragile geographies

Coordinators
Stefano Magaudda
Elena Paudice
Federica Rosso

A “modus operandi” for the Mid-Adriatic city climate adaptation

*Rosalba D’Onofrio, Timothy Brownlee, Chiara Camaioni, Jonatha Cecchi and Simone Malavolta**

The impacts of climate change on the economy, environment, and people’s health in Europe, particularly in the south, are destined to increase in the coming years, with catastrophic effects especially on the urban population if effective adaptation measures are not implemented. Cities contribute significantly to climate change but suffer its most disastrous effects. In recent decades, there have been numerous studies and research on the urban climate. Still, they have usually focused on the effects of climate change and on measures to mitigate risks for the population and the infrastructure. Few of these studies have dealt with the role of urban planning tools, which in determining the uses of land and the location of functions in cities and the territory, contribute significantly to greenhouse gas emissions and the waterproofing of soils. It has often been overlooked that it has numerous levers to impact the application of mitigation and adaptation measures at different scales. The Life+AgreeNet Project[1] aims to provide current and future local urban planning plans for the city in the mid-Adriatic (cities between Ancona and Pescara) with the possibility of predicting design scenarios for climate-proof 2030 and 2050 and making use of knowledge and methods to make adaptation measures applicable by working on multiple scales of investigation and evaluation, with the support of transdisciplinary knowledge. The Mid-Adriatic cities cannot currently count on urban planning tools that are attentive to climate issues. Both regions to which they belong: Marche and Abruzzo, have recently approved the new regional urban planning laws. At the moment, therefore, it is necessary to refer to the existing regulatory framework which has produced General Regulatory Plans which do not include rules and guidelines on adaptation. Nonetheless, the challenge of the A_GreeNet Project consists of finding design opportunities in the often incomplete system of green areas present in the current PRGs, coming into contact with the different settlement fabrics of the city, dealing with a territory of voids, areas in transformation, environmental criticalities, conflicts in the use of spaces and dissatisfaction with current planning tools, but also of projects expressed and then set aside, to suggest new qualities and design opportunities. This is an attempt to anticipate some of the possible contents of future Urban Plans, which must be useful for building a new vision of adaptive cities, advocates of inclusive social practices, innovative economies and public-private collaborative processes of a very different nature from the past. The objective of a design rethinking of the city of the Mid-Adriatic city, starting from the voids and the construction of the green infrastructure, suggested the reading and evaluation of the urban systems, through a synthesis of the knowledge acquired on the different settlement systems, concerning: presence of green areas; climate scenarios for 2030 and 2050 and demographic and social fragilities (Fig.1); to the forecasts of urban planning and the planning of public works, as well as to the requests expressed by the territory. The recognition of settlement morphologies starting from the presence of green areas has made it possible to understand how the different fabrics of the city can contribute to the creation of urban and territorial green infrastructure. The cross-reading of these different components, conditions, climate forecasts, vulnerability of the local population, and requests led to the identification of: “Homogeneous systems and areas of the city of the middle Adriatic”. The project scenarios for 2030and 2050 were then developed, and suggested directions and recommendations to the Municipalities for planning short and long-term climate change adaptation activities and interventions (Fig.2). The urban scale planning framework has been accompanied by a repertoire of urban planning techniques and other tools to facilitate the creation of green areas, through forms of involvement of private operators, innovative financing measures, and directions for “nature-based” planning in building regulations. A friendly platform also allows users to identify typical design solutions, based on climate parameters, PRG forecasts, and medium and long-term design scenarios which can be explored further at a detailed scale subsequently. The solutions can also be modulated based

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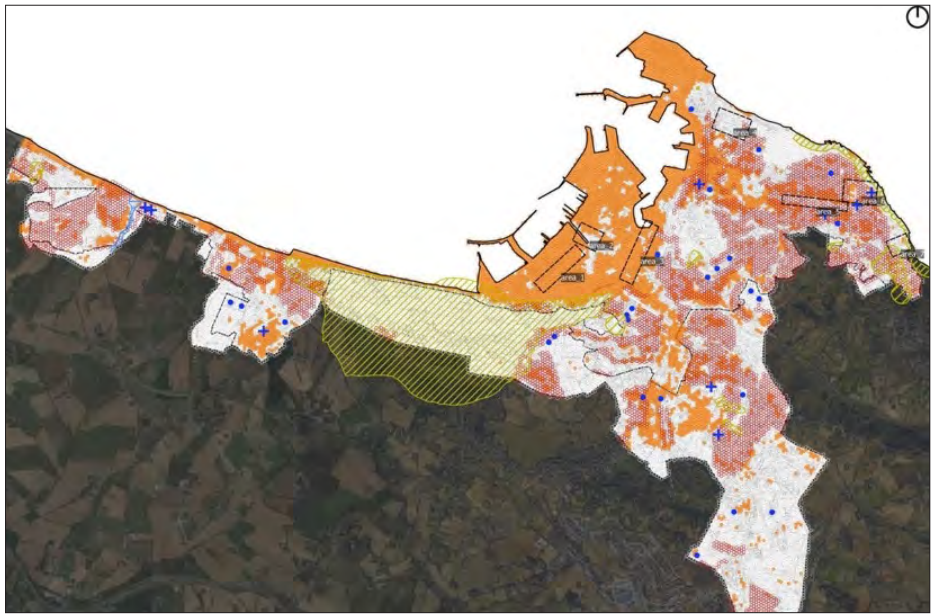
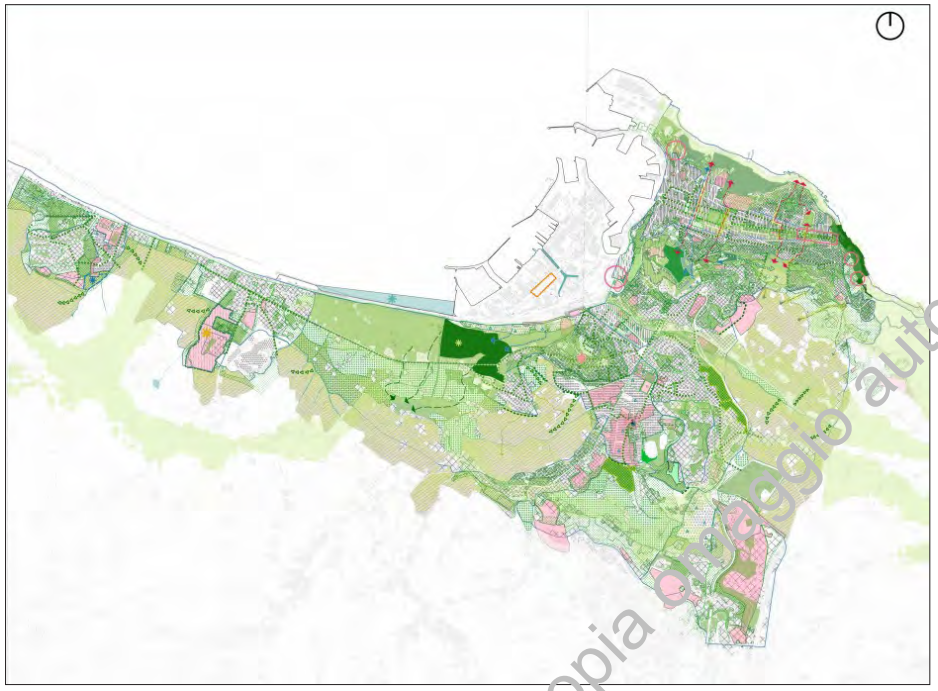
[1] The Life+ A_GreeNet Project is funded by LIFE EU Programme, grant number LIFE 20 CCA/IT/001752

Fig. 1.
Meteoclimatic and Health Framework-City of Ancona

Fig. 2.
Strategic Vision- City of Ancona





on the morphological characteristics of the site being investigated, as well as its space allocation, the presence/absence of greenery, ecological networks and permeable soil, and the possibility of intervening through structured interventions rather than through lightweight green devices. The creation of green infrastructures has also suggested innovative forms of involvement of private entities and management. The project involved the stipulation of a Forestry Contract signed by public stakeholders (2 Regions; 4 Provinces; 15 Municipalities) and 22 private stakeholders (professional associations of engineers/architects/agronomists/doctors, trade associations, industry, agriculture, tourism and sport organizations); the drafting of standard management plans for pine forests and public green areas; demonstration interventions of restoration, regeneration and microforestry; the activation of investments for 15 bottom up interventions to be carried out by companies participating in tenders at the counter.

Indicator-based analysis methodology on fragile areas The case of Zagarolo and Petrella Salto

*Luana Di Lodovico, Federico Eugeni**

The presented research studies different declinations of territorial fragility, with particular attention to two small urban centres of the Lazio region (Zagarolo and Petrella Salto), leading to the definition of a methodology that can act as a tool of support for planners. It is carried on through a GIS-based methodology able to construct fragility indicators, which are configured as analysis and validation framework for the planning and design process at the various administrative levels to systemise the various strategies, in the short, medium, and long term. Specifically, indicator-based analyses are conducted to measure fragility, through three sets of indicators that try to describe three topics: i) environmental, ii) socio-economic and iii) relational phenomena. In this context, reference is made to the theoretical-scientific framework of reference in which urban and territorial planning and design can integrate into their decision-making processes an assessment of the fragilities and potentialities to offer the community a holistic type of planning that limits soil consumption, especially in high-risk areas, and that at the same time aims at the protection and valorisation of natural, artistic, social, and cultural resources. On the methodological side, the study is based on the construction of a large database at the LAU-2 level (Local Administrative Units, municipal scale), identified by ESPON as the most appropriate level at which to carry out local scale evaluations that are faithfully descriptive of the multidimensional phenomenology at work. This idea is based on a survey of the type of analytical geographies and databases implemented in Italy and Europe. It was found that the latter do not provide a horizontal reading of the phenomena in progress but tend to describe them individually, thus portraying isolated aspects at different scales, making the territory and the dynamics at work difficult to interpret. An attempt is therefore made to overcome the limit of the one-dimensionality of analysis at a territorial level by attempting to relate different data to each other in such a way as to construct and represent, composite indicators (which in turn can be superimposed using the overlay-mapping technique) that can represent different phenomena taking place at a territorial scale and provide planners with a multidimensional reading of phenomena themselves. The research tends to investigate the multidimensional nature of fragility at a territorial scale; it is considered useful to specify that the three themes, studied according to the 30 simple, and 6 compound data-driven indicators, are not described only concerning the municipalities under study. The compound indicators are constructed through the combination of five elementary indicators (each) describing the main dimensions of the topic under analysis. The values obtained thus provide useful elements for the identification of potential areas of criticality. The methodology used for the construction of vulnerability indexes is based on the hypothesis of the non "substitutability" of the various components and makes it possible to produce a non-compensatory synthetic index that is comparable over time in "absolute" terms (Adjusted Mazziotta-Pareto Index - AMPI+/-). As functional areas of comparison, the ISTAT Local Labour Systems (SLL) are considered, which, in turn, precisely represent a territorial grid whose boundaries, regardless of the administrative articulation of the territory, are defined using the flows of daily home/work movements (commuting) recorded during the general population and housing Censuses. Each local system is both the place where the population resides and works and the context in which social and economic relations evolve; home-to-work commuting is used as a proxy for existing relations in the territory. The analysis model is intended to be open so that the entire system can easily be updated over time. The continuous review of the indicators allows the maps (with which indicators are represented) to be updated dynamically thus having transformations taking place in the territory under control. The aim is not to draft a ranking of "strong" or "fragile" places but to gain in-depth knowledge of the conditions that determine territorial fragilities. In the end, this research points towards two distinct but closely related results. On the one hand, the knowledge systems already available on the national territory are represented and put into the system (with a focus on the territories examined); on the other hand, an analysis tool capable of detecting homogeneities and territorial differences is implemented. These two results make it possible to overcome the spatial reading models based on administrative boundaries used one-dimensionally, as mentioned previously, by going on to establish possible relationships between the phenomena relative to fragility issues.

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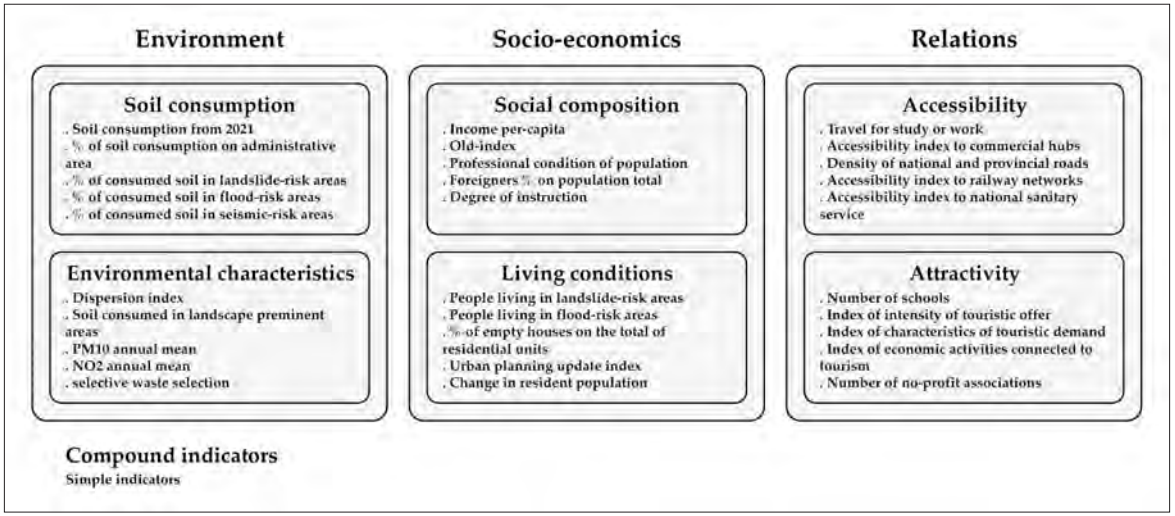

Fig. 1.
Fragility indicators list and identification between compound and simple indicators

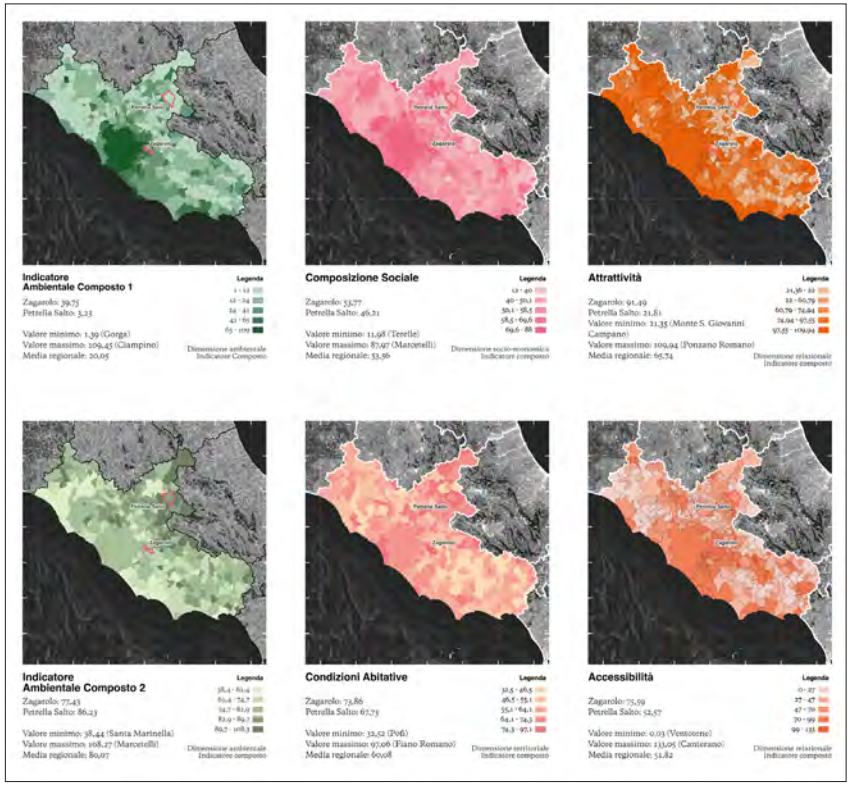

Fig. 2.
Compound indexes carthographies (original elaborations by authors) at the regional scale

Climate transition and EU projects in European cities on the Mediterranean shores: governance matters

Federica Di Pietrantonio, Stefano Magaudda***

Mediterranean coastal areas are especially vulnerable to negative effects of climate change, also because of intense urbanization and of the presence of anthropic activities linked to ports and tourism, greatly affecting coastal and marine environments. Particularly in coastal urban areas, economic and conservation interests reach high levels of overlapping and potential conflict, with multiple territorial players, competences, and planning instruments intervening on the same territories. Conflicts among multiple actors and instruments operating in coastal urban areas can slowdown or prevent incisive climate action, thus maintaining or even increasing the fragility of these territories. Climate-related EU projects (especially Interreg) can be a lens to disclose continuities, discontinuities and conflicts of the main players' action, highlight criticalities and enable the identification of more effective governance models. Due to their sectorial and mainly demonstrative nature, Interreg projects have indeed scarce physical effects on territories. During programming period 2014-2020, for instance, most of the nearly 150 projects on climate topics regarding coastal urban areas in Mediterranean Europe resulted in mainly intangible outputs (such as plans, studies, ICT tools, decision support systems, etc.), while only few of them (around 12%) implemented small-sized physical interventions. A more in-depth analysis (covering a wider timespan and other types of EU projects) suggests, however, that the concrete effects of Interreg projects can be amplified where "continuity lines" emerge, i.e. where projects do not stand alone but become part of a "workflow" aimed to test, develop and consolidate solutions along a series of consecutive initiatives targeting the same topics or places. The effectiveness of these projects (and of most EU-funded projects) thus becomes a matter of territorial governance, and regards the capacity of the different players to seize the available opportunities to give concreteness to their strategies and objectives, whether explicit (i.e. expressed in planning instruments) or implicit (i.e. embedded within their institutional mission or informed by strong public or private interests). How to improve territorial governance of climate transition through stakeholders involvement is in itself an issue addressed by several Interreg projects, and a challenge emerges as how to mainstream pilot governance experiences tested by these projects in the face of the rigidity of the planning competences system. Challenges of continuity and governance could be both addressed through a single instrument able to guide the territorial players' climate action, and to seamlessly coordinate climate-related initiatives (implemented by different subjects, with diverse funding sources and timing), while broadening their scope and outreach. We argue here that this instrument already exists, and is actually the SECAP. The SECAP is a voluntary political instrument that already gathers different actions bound by their climate mitigation and adaptation value (SUMP, bike plan, urban projects…), and results from a participatory process mobilizing local stakeholders. It is recognised as a crucial piece of the multi-level, multi-scale governance needed to successfully act for climate adaptation (see i.e. the 2018 JRC Guidebook "How to develop a Sustainable Energy and Climate Action Plan"), and some scholars consider it an effective tool for implementing Regional Sustainable Development Strategies (i.e. Colocci, Gioia, Casareale, Marchetti and Marincioni, 2023). It can therefore act as guiding document for local mitigation and adaptation action, providing a shared strategic framework that can be implemented by activating a variety of subjects, practices and projects, also EU-funded. Moreover, Covenant of Mayors Coordinators can help align local strategies, framing them into a larger picture (i.e. at metropolitan scale) and thus increasing their chances to affect climate-related processes, which are inherently supra-local. In order to successfully fulfil this role, we argue that the SECAP should: i) result from a real participatory process, involving all the actors operating on the territory, and taking the sufficient time to define a really shared climate transition path, provide adequate feedback and maintain engagement over time; ii) be intended not as a mere list of actions, but as a place-based strategy for climate transition, providing a reference framework and allowing for its flexible implementation; iii) undergo continuous updating (in line with the Adaptation policy cycle defined by Climate-ADAPT), based not only on the Covenant of Mayors' requirements, but on the ever-changing territorial features and needs. Re-thinking the SECAP in a more strategic perspective could also increase effectiveness of EU-funded projects, by encouraging applicants to more accurately build up proposals and partnerships, based on their relevance to the common strategy. This side effect could be amplified if EU Programmes applied rewarding mechanisms to proposals directly aimed at implementing SECAPs, thus encouraging local authorities to develop such instruments and stimulating local stakeholders to advocate for (and participate in) their preparation.

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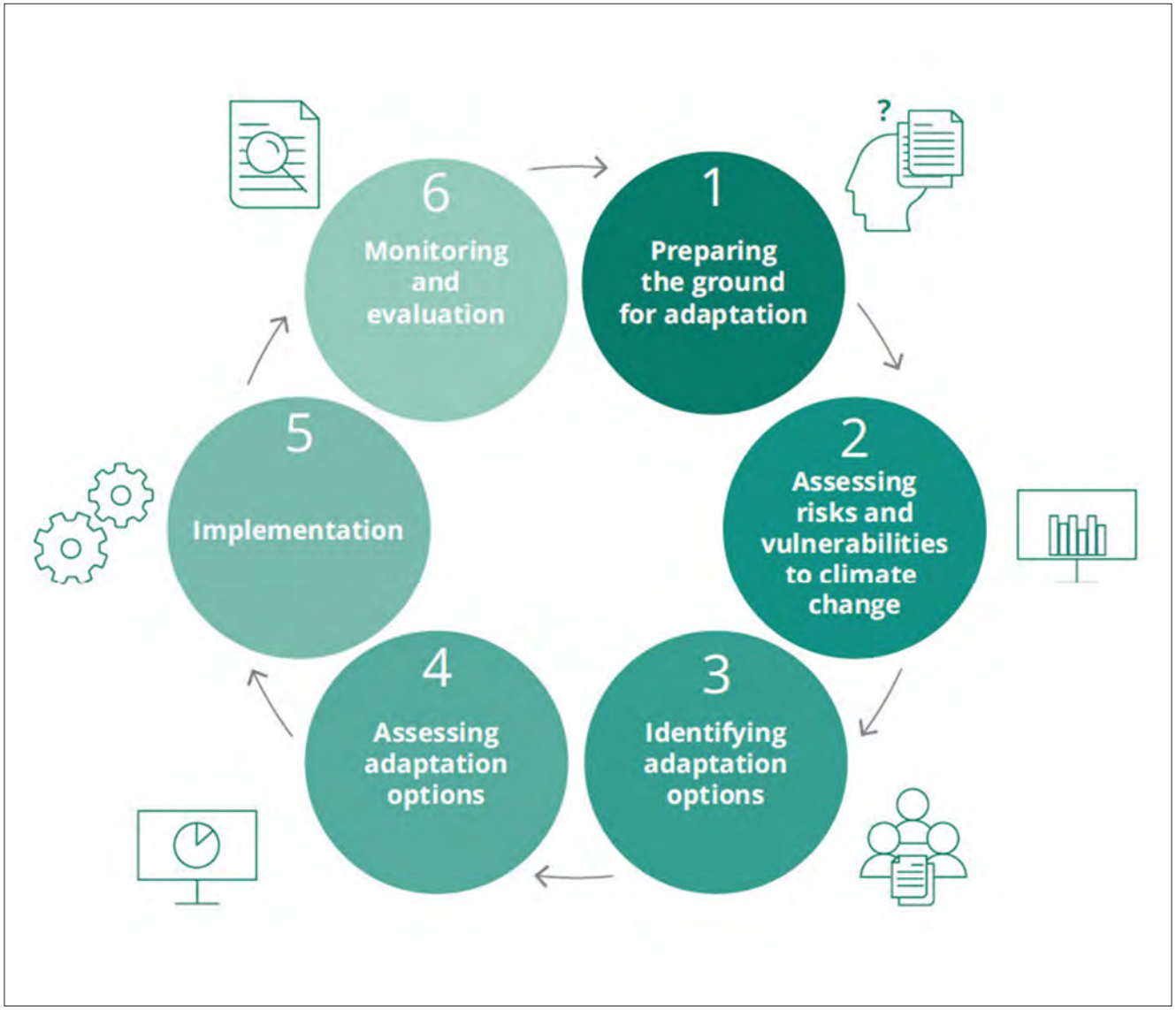

Fig. 1.
Adaptation policy cycle, based on the Climate-ADAPT Adaptation Support Tool (Source: Climate-ADAPT)

An experiment to reduce the abandonment of the hamlets of Castiglione del Lago

*Andrea Iacomoni**

The territory of Castiglione del Lago, located in a Region that already presents its own problems of internal isolation, is located in an area, that of Lake Trasimeno, which over the years has undergone a considerable decrease, economic, functional and consequently residential. If the major centers, such as Castiglione, Passignano and Tuoro, still manage to resist, thanks to the presence of most of the functions of the built-up area and the Coastal System of the lake, greater problems are found of the hamlets, now in a strong state of abandonment. This is part of those changes in the current economy, which, in order to revive these contexts, resumes the principles of sustainable development, giving greater emphasis on the environment, for the recovery aimed at reducing land consumption. in this way, the cultural and structural change brought by the circular economy, also affects the design.

Given that the economic system is located within the ecological system, having to comply with physical, biological and climatic rules of operation and limits, the transition to urban and territorial regeneration, in its physical, social and economic components, cannot be separated from a profound revision and innovation of production and distribution models.

Therefore, we need to imagine urban regeneration as a centrifugal force that overcomes the custom of linear thrusts projecting from the center to the hamlets and suburbs, to set in motion a circular cultural and planning relationship, which sees in the "movement" of people and ideas the theoretical basis for rethinking the territory, mobility, services and the "reuse" of territorial HUBs as energy points before strategic ones. In the intentions of the municipal administration, these Hubs fit into an organized structure that allows supply and demand for planning to meet in an economically and socially sustainable way to intercept the needs of the territory and not only the need to communicate and interconnect. This is what is envisaged in the project "Making downtown. Making city. Culture as the engine of regeneration," developed by the Municipality of Castiglione del Lago, with the aim of identifying places of centrality to serve a project of enhancement and interconnection, of which culture and sociality must be the flywheel and engine of regeneration. Thus overcoming the bidirectional concept of development from the center to the periphery, introducing the theme of circularity.

The design experimentation presented here, the result of a scientific collaboration agreement between the University and the Administration, aims to create new relationships between the historic center, the lake and the inland areas, not only reaffirming the historic relationship with water, but also the importance of the plain-hill transversality (ecological, morphological and functional). In particular by delving, here, into the Hub Crinale, which contains the three hamlets of Petrignano del lago, Casamaggiore and Vaiano, conceiving them according to a reciprocity, environmental and programmatic, aimed at the enhancement of the whole territorial heritage, within a single integrated landscape project.

Objectivity, as Popper recalled, "rests on criticism, critical discussion and critical examination of the experiment." The work carried out pursued the objective of experimenting with a processual and systemic methodology of planning and design, aimed at the design of the inland (and lake) landscape of Castiglione, including the regeneration of areas disused from urban settlement and public spaces of peripheral areas, through the inclusion of new services and functions and with functional and environmental redevelopment interventions. With these aims, the design workshop in which the project was carried out aimed to create and consolidate a competence in landscape and territorial reading through multidisciplinary analysis, but, at the same time, to create and consolidate a theoretical and practical competence in design at the various scales, from urban planning to architecture, with the recovery of existing artifacts and landscape design.

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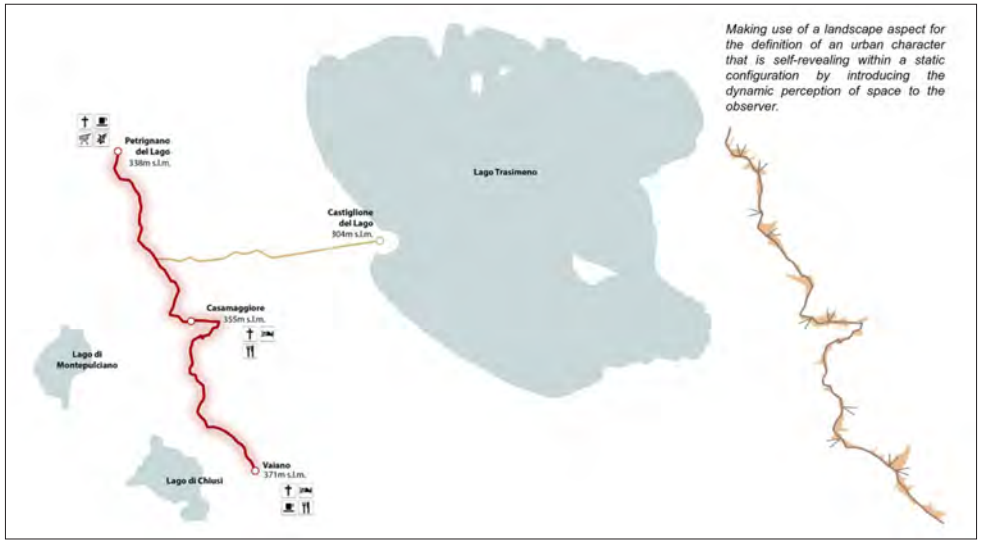
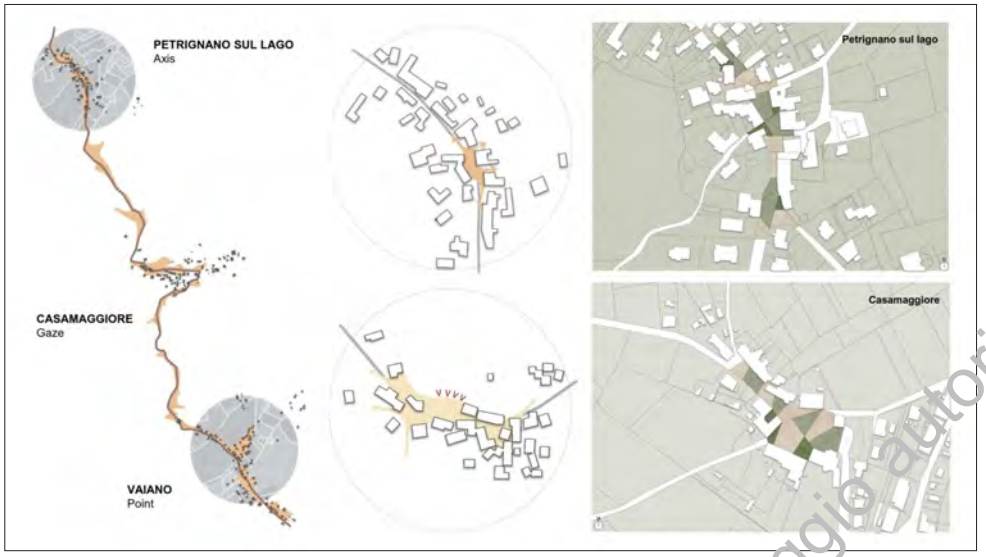
Fig. 1.
On the left is the system of hamlets in the inner territory. On the right the landscape axis of regeneration of the three centers.

Fig. 2.
Examples of redevelopment of public spaces through the introduction of dynamic landscape perception.





Making use of a landscape aspect for the definition of an urban character that is self-revealing within a static configuration by introducing the dynamic perception of space to the observer seemed, for the purpose of regenerating these interior places, an appropriate method. The challenge has been to rethink regeneration as a symbiotic ecosystem, where "circular regeneration" thinks of today's "products" as tomorrow's resources, in which the value of structural, social and cultural materials, is retained or recovered as much as possible in minimizing waste.

The purpose is to reconstruct, for the whole system of hamlets, a direct and reciprocal relationship with the center of Castiglione and the lake landscape, which thus becomes an element of relationship with the neighboring territories as well. Components related to landscape and infrastructure were recognized for each hamlet. For Petrignano the "axiality" with respect to the main infrastructure was highlighted; Casamaggiore is characterized by two fires that define a polarizing area of intervention that combines with the "look" component on the landscape, while for Vaiano the structure is given by the "punctuality" defined by the main square. In all three centers, the landscape becomes a determining element in the design of public spaces by redefining the soil, furniture and vegetation that combine in the construction of new places of socialization.

Integrated Urban Climate Resilience: Dual Strategies for Mitigating Flood Risks and Urban Heat Island

Simona Manucci, Federica Rosso*,***

This contribution explores national and global efforts to tackle the Grand Challenges, emphasizing enhancing urban resilience, adaptation strategies, and climate change mitigation measures. In greater detail, we highlight the critical urgency for immediate action in an era marked by escalating climate change impacts and growing human pressures on urban environments. Drawing inspiration from the United Nations' Sustainable Development Goals[1], particularly Goals 11 (Sustainable Cities and Communities) and 13 (Climate Action), this study aligns with the Italian National recovery and resilience strategy, aiming to weave these global and national efforts into a cohesive approach.

Central to this study is the objective of devising an integrated, multi-scalar strategy for confronting the complexities of climate change, focusing on flood adaptation and protection measures. By evaluating the effectiveness of Sustainable Drainage Systems (Fig.1) (SuDs)[2] due to the increasing soil sealing. Greenery and water implemented in urban outdoor spaces have been promoted as effective strategies to counteract UHIE while Sustainable Urban Drainage Systems (SUDS in mitigating flood risks across varying scales—from individual buildings to neighborhoods and up to the national level—the research seeks to shed light on their compound potential in addressing flooding but also the Urban Heat Island (UHI) effect[3] we investigated the impact of a HW on the UHI in Milan (Italy. Climate change is expected to intensify the frequency and severity of flooding, putting urban areas at increased risk due to enhanced storms and droughts. Urbanization further compounds this issue by disrupting the natural water cycle, leading to problems such as reduced soil infiltration and increased thermal discomfort, with runoff being a notable consequence of increased surface imperviousness[4].

Effective flood protection and adaptation strategies within urban settings are crucial to address these climate-related challenges. The literature emphasizes the need for cohesive strategies that adopt an integrated, multidisciplinary, and cross-scale approach. This involves formulating policies and management strategies at national and city levels, translating these into specific designs at the neighborhood scale, and applying design measures and technologies at the building scale. However, the challenge lies in achieving cohesion across these scales and disciplines, often leading to isolated solutions rather than comprehensive, co-benefit approaches.

Moreover, the UHI effect results in cities experiencing higher temperatures than their surrounding suburbs, sometimes by more than 10°C. This phenomenon, compounded by extreme heat events like heatwaves, significantly impacts the health and safety of urban populations. UHI arises from altered land cover, the urban built environment enhanced heat storage, anthropogenic heat from human activities and reduced evapotranspiration due to less green and water spaces. Dense urban layouts also affect wind patterns, contributing to UHI. For example, heatwaves in cities can lead to temperature increases up to 3.5 °C, with significant health impacts, such as the 28.8% rise in elderly mortality during Rome's 1992-2004 heatwave.

Strategies to combat flooding and UHI often overlap, suggesting a unified approach could address both. For instance, using cool[5] we investigated the impact of a HW on the UHI in Milan (Italy and permeable pavements and SuDs incorporating vegetation and water features can mitigate heat and manage stormwater[6].

A case study in Ostia demonstrated that combining greenery with permeable pavements significantly improves thermal comfort and can reduce runoff risk by nearly 50%. Through the case study, we explored how mitigation strategies can address runoff reduction at

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the neighborhood and building scales and concurrently mitigate the Urban Heat Island Effect (UHIE). By assessing various scenarios through a case study in a flood-prone area of Rome, we analyze the effectiveness of SuDs processes—such as infiltration, detention/retention, conveyance, and water harvesting—in managing excess water and their benefits beyond flood risk mitigation, including rainwater harvesting, permeable paving, green roofs/walls, rain gardens, flood parks, basins, swales, wetlands, and floodable areas.

Moreover, the study offers a holistic approach to urban climate resilience[7]. By identifying specific SuDs that effectively reduce flood risks and mitigate the UHI effect, the research underscores the need for a multidisciplinary perspective. It argues for the adoption of coherent, integrated strategies that operate across different dimensions to maximize the co-benefits of climate adaptation and mitigation efforts. Through this lens, the study aims to contribute valuable insights and practical solutions for simultaneously addressing the intertwined challenges of flooding and urban heat, advancing the global and national agenda for sustainable urban development and climate resilience.

These findings highlight the importance of adopting a holistic view when tackling urban climate challenges, ensuring solutions are designed for maximum co-benefits in mitigating climate change effects.

Fig. 1.
The co-benefits of integrated management of SuDs to tackle climate extremes in the built environment

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Strategies and considerations to contrast the abandonment of inland areas

*Elena Paudice**

The reinforcement of the material and immaterial cultural heritage of smaller centers can be a crucial factor in balancing the overall structure of the territory. However, in recent decades, some small municipalities in the inland areas of Italy have experienced a gradual abandonment due to a lack of adequate development of facilities and infrastructure. These are territories in a state of involution, consisting of small communities with very high aging indices compared to the national average (G. Macchi Jánica, 2019). Furthermore, the reduction of public and private services has contributed to increasing a condition of triple fragility: inadequate accessibility, low productivity, and demographic decline. (C. Andriani, E. Corradi, R. Massaces, 2016)

What remains are places waiting for actions to reactivate a new cycle of life, with inclusive policies to counteract centrifugal demographic flows, outlining a "territorial periphery". (P. Bevilacqua, 2012)

In this context, the Interuniversity Vagare research project "VAlorizzazione Green di AREe fragili ad elevato potenziale culturale, storico e naturalistico"1 focuses on areas with low population density and high settlement dispersion in Lazio. This includes the case study of Petrella Salto, part of the small urban constellations nestled in the mountainous nature of the Valle del Salto. Unfortunately, Petrella Salto is currently characterized by a weak community showing critical levels of demographic growth: 1,035 inhabitants in 2023, compared to 1,055 in 2020, 1,106 in 2018, and 1,175 in 2016. (Istat data, 2024)

The history of Petrella Salto is connected to that of the eponymous lake, an artificial basin created in the early decades of the last century for electricity production when the Turano dam, 90 meters high, was built. The infrastructure works were completed in 1940, and with the first torrential rains, the surrounding inhabited areas were slowly submerged, creating a large lake. Agricultural fields and ancient medieval buildings were sacrificed for the development of productive forces, disrupting the socio-economic structure and creating a strong division that led to depopulation.

A scenario of emptiness, of absence, is presented in a territory that needs to be treated as a living organism, a palimpsest of historical and environmental processes, cultural and natural transformations that layer over time, leaving representative traces of the memory of places. (A. Magnaghi, 2010)

In possible scenarios of reactivation, a fundamental element at various scales is represented by the communities, witnesses of a past to be handed down, bearers of local culture and imperceptible stories intrinsic to the architectures that make up urban space (A. Landi, 2023). Numerous "reactivation" initiatives have been undertaken by these fragile realities from the bottom up, outlining an interesting framework of experiments and innovations for the enhancement of cultural heritage, as seen in the case of the ancient village of Torri Superiore near Ventimiglia's coast and a few kilometers from the French border. The succession of a few dozen small contiguous houses on a series of terraces makes up the inhabited center, which until the 1980s was in a state of decay. In 1989, the Cultural Association of Torri Superiore (A. G. Dal Borgo, G. Gambazza 2017) was established, which created an eco-village where about twenty residents permanently live. The team restored the houses and constantly carries out reception activities, as well as courses on conscious nutrition and cultivation.

Meanwhile, in Piedmont, in the Ossola Valley a few kilometers from Domodossola, since 2007, the small village of Ghesio (in the dialect Ghesc) has become the focus of research and educational workshops by the Canova Association. This association promotes the enhancement and recovery of existing heritage through the use of sustainable materials. Some of the houses in the village are intended for educational activities, while others serve as private residences for the association's leaders who have decided to live permanently in Ghesio.

While a broad-scale approach is essential to reconnect these small realities with the surrounding territory, creating a network of cultural infrastructure, a more focused look helps understand the social impact of various project proposals, where it is essential to consider the sense of belonging. The cases of Torri Superiore and Ghesio tell the story of citizens' willingness not to forget, to pass down, and protect the history of places, a history partly submerged, as in the case of the Valle del Salto, which can resurface only

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[1] Progetto sviluppato tra il Centro Interdipartimentale Fo.Cu.S, Formazione Cultura Storia di Sapienza Università di Roma e il Dipartimento di Ingegneria dell'Università degli Studi Roma Tre supportato dalla Regione Lazio, POR FESR Lazio 2014-2020. Progetto T0002E0001. CUP F85F21001480009

through reactivation policies based on participation and inclusion. (F. Barca, G. Carrosio, S. Lucarelli 2018). Considering these small centers as social laboratories where communities experiment with different settlement modalities is crucial. (A. Paolella 2019)

There is also a need for careful and shared work on the existing built heritage to initiate recovery projects that respect the imaginary of communities (F. Sabbatini, 2023). The conviction is that reactivation strategies must proceed hand in hand with the conservation of the identity elements of places, thus achieving a vision of sustainability expressed in various forms of "caring" for the territory.

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Fig. 1.
View of the dam built in 1940, which, with its construction, created Lake Salto after torrential rains

Fig. 2.
From the village of Petrella Salto, the highest point next to the ruins of old buildings offers a unique view of the entire valley

Strengthening INtegrated Urban climate Resilience in the Built Environment through multi-objective strategies and Citizens involvement: inURBECitizens project

Federica Rosso,***, Francesco Cappa**, Marco Ferrero*,****

Numerous grand challenges, i.e., urgent social and environmental problems that have an impact on the entire population, are present in cities due to anthropic pressure[1]. These difficulties are exacerbated by the growing urban population, which is projected to increasingly converge in cities[2], as well as the acceleration of climate changes[3]. Specifically, the Urban Heat Island (UHI) intensifies heatwaves[4], making them worse and increasing their effects, particularly on the most vulnerable residents. Urban temperatures can rise by up to 10 °C over those of the nearby suburbs due to UHI, which is caused by the lack of green areas and water elements in cities, as well as by the storage of heat in the constructions, the heat from anthropic activities and the reduced/modified wind inside the city. Furthermore, extreme events—such as prolonged dry spells in the summer and heavier precipitation in the winter—have been made worse by climate change[5].

In this context, the built environment itself may help to lessen the aforementioned obstacles to achieve greater resilience. In fact, one of the most important factors in reducing UHI is the built environment itself, e.g., by using cool and green integrated strategies, the latter one being also a feasible solution for mitigating extreme rain events[6].

However, up until now, potential mitigation measures and problems posed by climate change have mostly ignored a comprehensive overall strategy in favor of concentrating on buildings or outdoor spaces separately. Instead, we contend that a multi-objective strategy should take into account all aspects of the built environment as well as all potential mitigation techniques, as we proposed through the inURBECitizens project, which has been financed as a PRIN PNRR 2022 project. Adding to the multi-scale and multi-optimization perspective, considering neighborhood, outdoor spaces and buildings and the complex array of challenges that they face due to climate changes, we also take into account the perspective of citizens, towards a human-centric urban area. We aim to consider their subjective feedback on thermal, visual and overall perception of punctual resilience interventions on outdoor spaces, to add to the objective analyses that we are carrying on in parallel (by means of microclimate monitoring or dynamic simulation of comfort). Indeed, even if the citizens' perspective has not received enough attention thus far in quantitative studies, we argue that their active participation and subjective perceptions—which most frequently deviate from the objective assessment of the performance of a space—are vital. We seek to engage residents as active agents for a more resilient urban environment through the innovative citizen-sourcing paradigm, which uses crowdsourcing to gather ideas for future improvements and citizen science to gather data regarding subjective and objective views.

The project is in line with the SDGs and PNRR goals of enhancing urban area resilience, reducing the danger of floods, and preserving urban flora. It aims at cross-disciplinarity to address the country's increasingly complex challenges. In this instance, combining social science and STEM perspectives together is especially appropriate to develop mitigation and adaptation plans for resilient, equitable, and inclusive urban areas. The project is conducted as a highly multi-disciplinary project, involving STEM disciplines such as architectural engineering and social sciences, such as management. In this manner, we intend to analyze the challenge of resilient urban areas under a wide and overall perspective, which allows to take into account all of the facets of the phenomena.

Through integrated solutions, the project will offer a comprehensive framework for developing a built environment that concurrently addresses several concerns related to climate change. First evidences of the project are discussed, including the choice of case studies, and best practices for involving an active citizens' community as well as the computational and experimental methodologies that will be employed.

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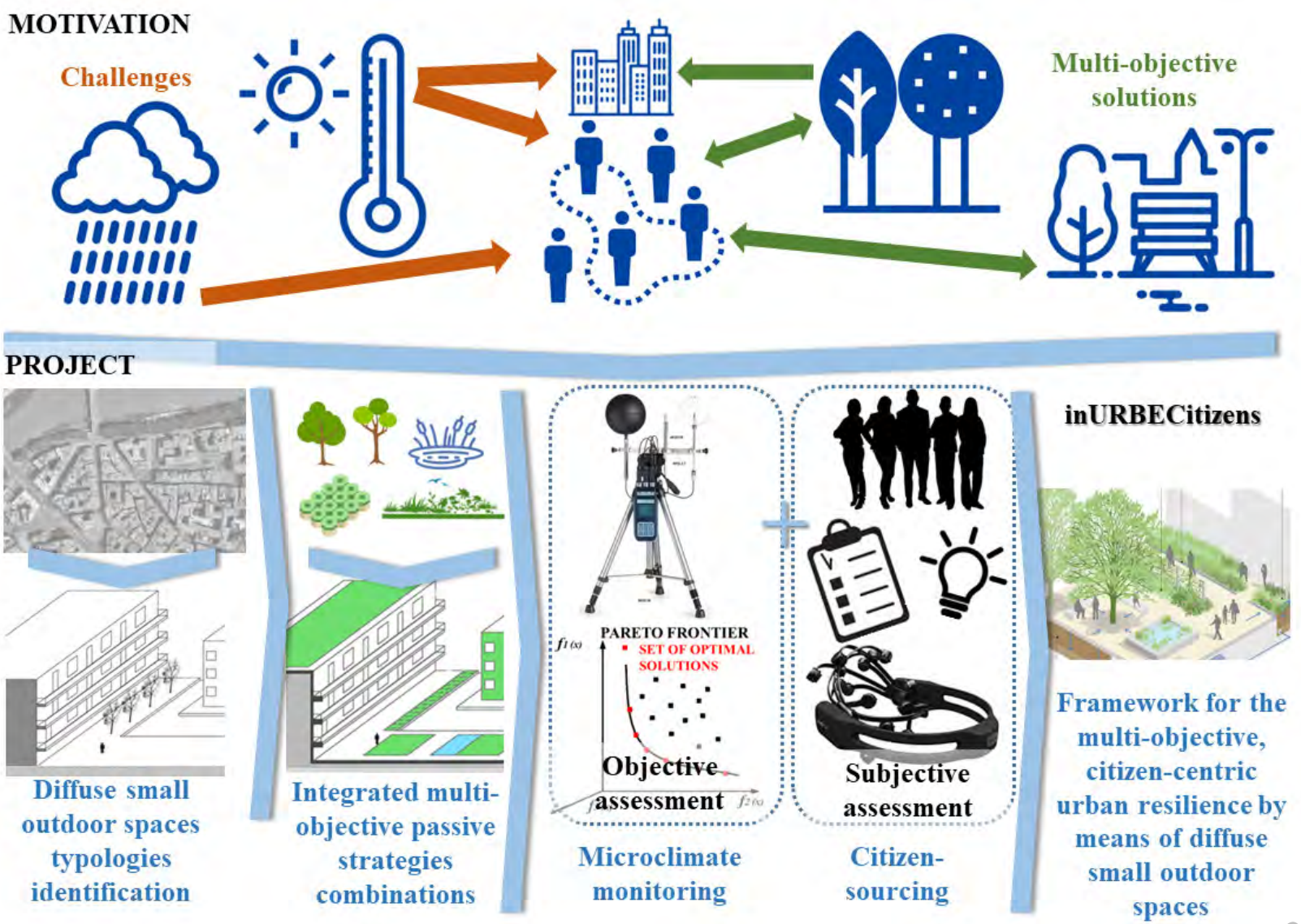

Fig. 1.
The motivation for the study and the flow-diagram of the PRIN PNRR 2022 financed project inURBECitizens

Cultivating new biodiversity by resilient landscapes
Opportunities to be seized in the Salento delle Serre

Paolo Galuzzi, Elena Solero**, Piergiorgio Vitillo****

Multifunctional Ecological Networks, Resilient Landscapes, Natural Capital

The proposed research thematizes, articulates and develops an interdepartmental university research,1 whose main objective was to keep space, society, economies together. The result is an integrated project of territories, able to rethink cities and landscapes in an integrated strategy, with particular reference to the system of minor centres, triggering the necessary ecological transition to models of development without growth that focuses on the quality of living.

From this standpoint, the Salento delle Serre represents an incredible historical, landscape, environmental, rural patchwork, whose territories must not be places of consumption (of history, traditions, nature), but the production of new cultures, agricultural and landscape practices, of renewed ways of providing services and interacting with the environment.

Through the articulation of different ecology, the research identifies a landscape-settlement scenario aimed at the construction of a multifunctional ecological network, which supports and enhances the settlement, cultural and natural heritage, highlighting its qualities, peculiarities, characters. Re-infrastructure opportunities at different scales and sizes (infrastructural, landscape, ecological-environmental).

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[1] The research is called Reti|Città|Territoro 2.0 Strategies for the enhancement of polycentric systems, divided into regional areas. Paolo Galuzzi (University la Sapienza Roma); Francesco Rotondo (Politecnica delle Marche), Elena Solero, Piergiorgio Vitillo (Politecnico di Milano) worked on the Serre Salentine.

Reveal, enhance and increase the Natural Capital

The proposed objective is to reveal, enhance and increase the Natural Capital through three project moves, aimed at promoting multifunctional ecological networks:
a) respect natural environments and landscapes (parks, reserves, beaches, dune habitats);
b) promote a network of natural connections;
c) enhancing coastal landscapes and the hydrographic network.

Cultivate new biodiversity

The cultivation of new biodiversity can represent an important alternative, able to activate an economic and social program to redesign the rural landscape of Salento devastated since 2013 by Xylella Fastidiosa: the damage does not only affect the economic-productive chain, but also extends to the environment and local communities; which must be involved starting from a cultural project capable of restoring the ecosystem, economic and social balance that for centuries has represented the richness of these territories. Putting together the pieces of a mosaic of communities and people whose identity characterizes the landscape, not only through a local reforestation project, which involves the regeneration of these territories-landscapes with resistant species, but also experiencing virtuous biodiversity resilient to climate change: the landscapes of the Mediterranean are resilient by nature, the plants evolved in frugal conditions exploiting the moments of abundance and resting in warm and dry periods, wisely optimizing the use of resources.

Triggering resilient ecology of Serre Ioniche

The project moves have been based on a structural interpretation of the territories of the Serre Ioniche as a system of ecology, as identity of living, of life, of integrated economies.

a) The ecology of relations

The ecology of relations, extended to all the Salento delle Serre (Ionic and Salentine), is organized in Environments (Landscapes), Mobility (Infrastructure), Settlements (Heritage).

As for the Environments, in addition to the system of parks and landscapes, the multifunctional agricultural park of the Serre plays an important role, as it crosses the Salento from north-west to south-east and separates the Serre Ioniche from the Serre Salentine, hosting the numerous settlements on the slope, from Galatone to Santa Maria di Leuca.

As for mobility, in addition to the historic coastal road network, the two east-west road axis structure accessibility and the main lines of movement. The system of the "mezzacosta pendulums", together with the local railway mobility to upgrade, plays an important role. The Railroads of the South-East covers 473,5 km of length (with particular reference to Gagliano-Leuca, Casarano, Nardò, Novoli, as well as Casarano-Gallipoli and Gallipoli-Lecce).

With regard to the Settlements, in addition to the spread of a real urbanized countryside, the stratified system of Heritage emerges clearly: the centuriation and the point heritage of historical and cultural settlements (farms, castles, coastal tower).

b) Ecology of Terre Alte e Terre Basse (Highlands and Lowlands)

The Terre Basse, crossed by the coastal road, are characterized by all the seaside villages with their historical cores, coastal landscapes and dune cordons, the "mid-coast pendulums" that from the sides reach the sea, the surface hydrographic system and the historical and panoramic roads.

The Terre Alte, crossed by the ridge of the Serre Salentine, are characterized by numerous settlements on the side with their historical cores; as well as by the linear systems of the side of the Serre and the multifunctional agricultural park of the Serre Salentine, real inhabited park with strong morphological and historical-identity features.

Both the Terre Alte e Terre Basse are dotted with a large and characteristic historical-cultural heritage.

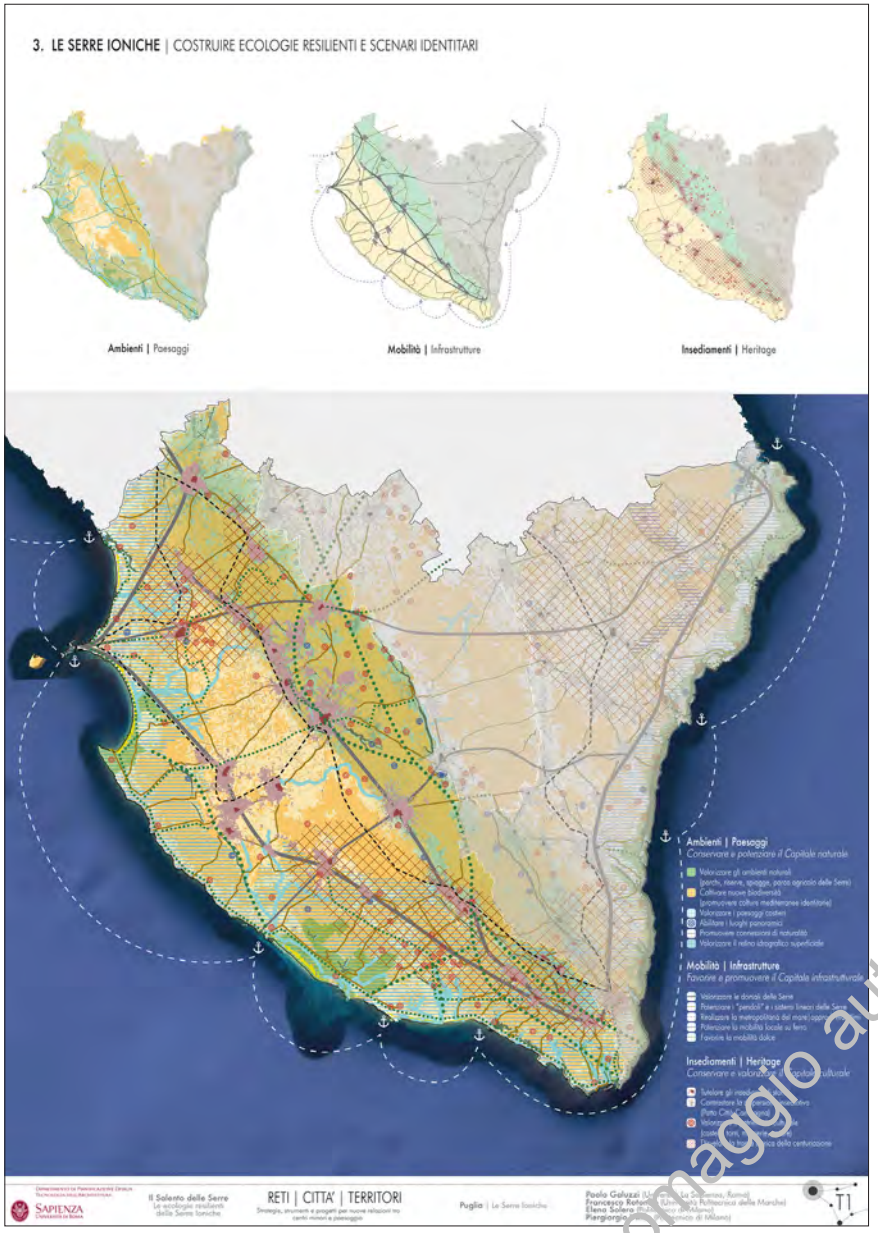

Fig. 1.
Triggering resilient ecology of Serre Ioniche

Embracing social and cultural Diversity in Eleusis: Exploring Possible Composite Tourism experiences After the ECOC 2021 title

Panagiota Tsolakaki, Sofia Avgerinou Kolonias***

Eleusis, a medium Greek city, a suburb of Athens, honoured as the European Capital of Culture for 2021, aspires to become a vibrant hub for composite tourist products, celebrating its unique blend of cultural, historical, and industrial elements. This vision encompasses not only a diverse tourist experience, and a pathway to local development but also positions the city as an emerging destination with a rich tapestry of experiences. The study deals with assessing Eleusis's current tourist offer, identifying untapped potential. It places a specific focus on the city's industrial heritage, recognizing it as a key tourist resource. Beyond diversifying tourism, the objective is to revitalize and preserve Eleusis's industrial heritage, acknowledging the contributions of different populations and nationalities of the city over the years.

Delving into Eleusis's ancient sacred significance, the research explores as well its folk culture as a mosaic shaped by various nationalities, cultures, and customs, a constantly enriched environment while the population flows to Eleusis for work reasons is an ongoing process. This emphasis on inclusivity underscores Eleusis's potential not just as a cultural hub but also as a welcoming space for a diverse workforce.

Additionally, Eleusis's role as a European Cultural Capital, has formed a new status for the city taking into consideration the potential tourism development for local growth. It envisions this designation as a catalyst for creating sustainable tourist products that celebrate the diverse workforce that has contributed to Eleusis's growth till now.

Despite the feasibility of developing a new tourist product, shortcomings exist in targeted planning. The abundance of resources contrasts with the challenges in converting them into final products. A targeted policy is crucial for promoting tourism development and addressing the contradiction between resource abundance and product conversion.

Current priorities focus on maintaining the secondary sector and tertiary activities, hindering tourism development. Strategic planning is essential to enrich Eleusis's tourism product, emphasizing cultural and industrial heritage. Coexistence with other activities is possible with specialized policies addressing negative impacts and creating a conducive environment. Effective planning will unlock Eleusis's full tourism potential. The preservation and enhancement of Eleusis's industrial heritage are discussed within national and regional policies, showcasing a commitment to protect the industrial legacy and integrate it into the broader tourism narrative. Various programs and local policies are highlighted, emphasizing their dual contribution to heritage conservation and tourism development.

Eleusis, shaped by deindustrialization, possesses historic industrial buildings slated for preservation. The Municipality, anticipating the 'Cultural Capital of Europe 2021,' initiated sporadic alienation, restoration, and reuse processes. A comprehensive strategic plan is needed for urban regeneration, emphasizing identity, advantages, cultural production, investments, and social cohesion.

City branding, involving identity formulation, landmark recognition, and potentially city marketing, is essential. Aligning with Athens master plan and the its cultural revitalisation plan, this approach seeks long-term economic and social prosperity.

Eleusis holds untapped potential for innovative tourist products derived from its unique local and historical characteristics. Diagram 1 illustrates the current tourist offerings and the prospect for new composite products. The case study confirms Eleusis's capability to design complex tourist products, transitioning from an industrial past to a new tertiary environment.

Concluding the study, potential new composite tourist products for Eleusis are presented, leveraging the city's unique attributes, including its cultural, historical, and industrial elements. The paper underscores the importance of these initiatives in revitalising local economies, preserving cultural heritage, including different nationalities and populations to local development and offering tourists a multifaceted and meaningful experience that reflects the contributions of diverse populations and nationalities throughout Eleusis's history.

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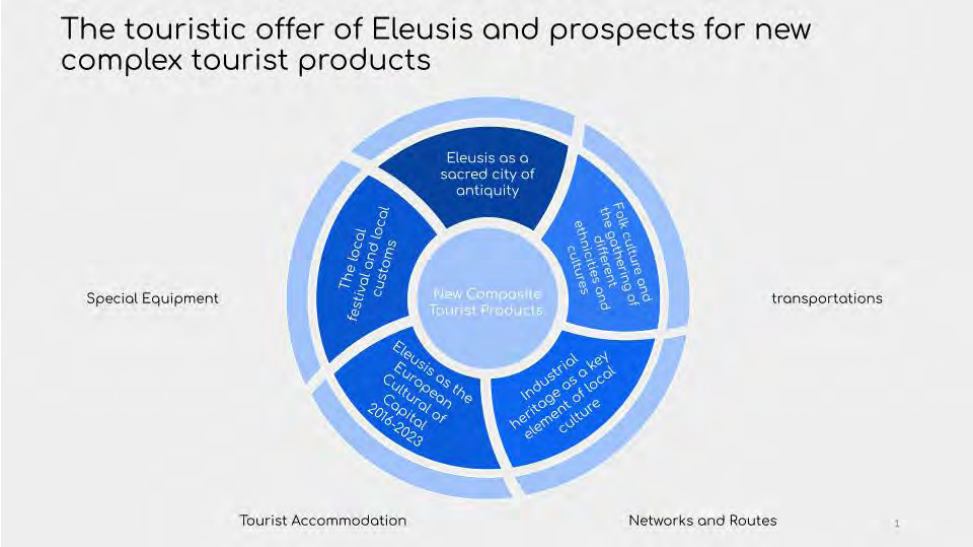

Fig. 1.
The potential of new composite tourism products in Eleusis, GR

Fig. 2.
View of a cultural gathering of the European capital of culture, within the city's archaeological site Next to industrial ruins in Eleusis, GR

Civil Protection Plan for inner areas. The case of Oltrepò Pavese

*Elisabetta Venco**

Natural features and man-made modifications of territories influence the origins and effects of every catastrophic event. Territorial planning instruments play an important role within the risk reduction policies through the inclusion of prescriptive measures concerning land use feasibility, allowed modifications, building or construction regulations, and urban adaptation of the existing building stock. However, until now, the topic was related only to sector policies and plans, which were not very incisive except when the sector plans have the authority to set direct constraints on the territory (as for the hydrogeological protection plans which defines mandatory rules for urban planning such as the classification of the so called PAI zones). In general, the relationship between emergency or civil protection plans and spatial plans is usually limited to a simple transposition of information. The detachment is also in the application and operational dimension of planning, due to the weakness of the local technical structures, the absence of effective reference models, and the fragmentation in a mosaic of different public authorities, governmental and institutional bodies at the different territorial levels.
In Lombardy Region, the Oltrepò Pavese (in particular the so called Alto Oltrepò, the most southern area included in the Comunità Montana) is a fragile territory with the typical characteristics of inner areas and strongly subjected to natural hazards: with high vulnerability and exposure levels, there is an relevant hydrogeological risks (Oltrepò Pavese is affected by different types of landslides covering an area of 187 km2 out of 709 km2 of its territory) and forest fire risk. Each area is characterized by its own peculiarities with respect to risk level, its spatial distribution, population density, the involvement of significant portions of urban settlements and infrastructures (production areas, historic centers, hamlets, isolated inhabited areas, facilities).

The territorial analysis highlights some issues and important phenomena that must be critically addressed. The urbanization level is low, with a high diffusion of small size and very fragmented settlements. There is a lack or fragmentation with little attraction role of the basic welfare services; the digital infrastructurization level is less than 40% of potential coverage limiting the possibility of extensively introducing and developing of remote services provision. The infrastructure system for mobility (mainly roads) is affected, in some areas heavily, by ground instability phenomena, and shows relatively limited flows of travel within the territory and for daily commute. The area has a strong agricultural vocation, but the mountain area is affected by a slow process of rural decline: the process of land abandonment is mainly due to the frequent phenomena of hydrogeological instability and produces a progressive advancement of forest woods with a significant increase in fire risk near inhabited areas. Moreover, it is an area of unexpressed tourism with very few employees and assets involved: nevertheless, it is the only sector that shows a slight increase. Lastly, the lack of coordination, collaboration, and unity of the various institutional actors for territorial planning and choices is evident and influences the effectiveness and maintenance of positive interventions and experiences.

As emerged from numerous planning instruments, some of the strategies for territory revamping (thanks to granted funds from Lombardy Region, State and European Union) focus on issues closely related to natural risks mitigation, risk reduction strategies, territorial enhancement and protection and solid actions: the develop of the attractiveness of the area working on the road system implementation; the growth of integrated policies relating to the management and valorization of water networks; enhancement of local biodiversity; strengthen of the inter-municipal civil protection group; strategic coordination to deal with new risk scenarios; enhancement of the activities of the forest fire protection group in an inter-municipal system (all the municipalities belonging to Comunità Montana have a civil protection plan compared to 78% in Lombardy Region).

An effective emergency planning process, as a cooperation moment among planning

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instruments, needs key elements: the flexibility and adaptability of processes and actions; the direct engagement of local communities; the definition of the most adequate elements for civil protection purpose; the constant update of risk scenarios. At local scale, the latter represent an important database for risk-informed urban planning processes; the detailed analysis of the heterogeneous spatial, functional, social, and economic characteristics of the context provided by the spatial plans offers a more in-depth knowledge of the complex dimensions of vulnerability and exposure.

In the most recent territorial plans, a higher attention to risk reduction and emergency management is evident: considering it as a crucial discipline for the territorial and urban planning process means new opportunities to requalify and develop the complex territorial system in order to better cope with the dynamic, exogenous and endogenous potentially damaging events.

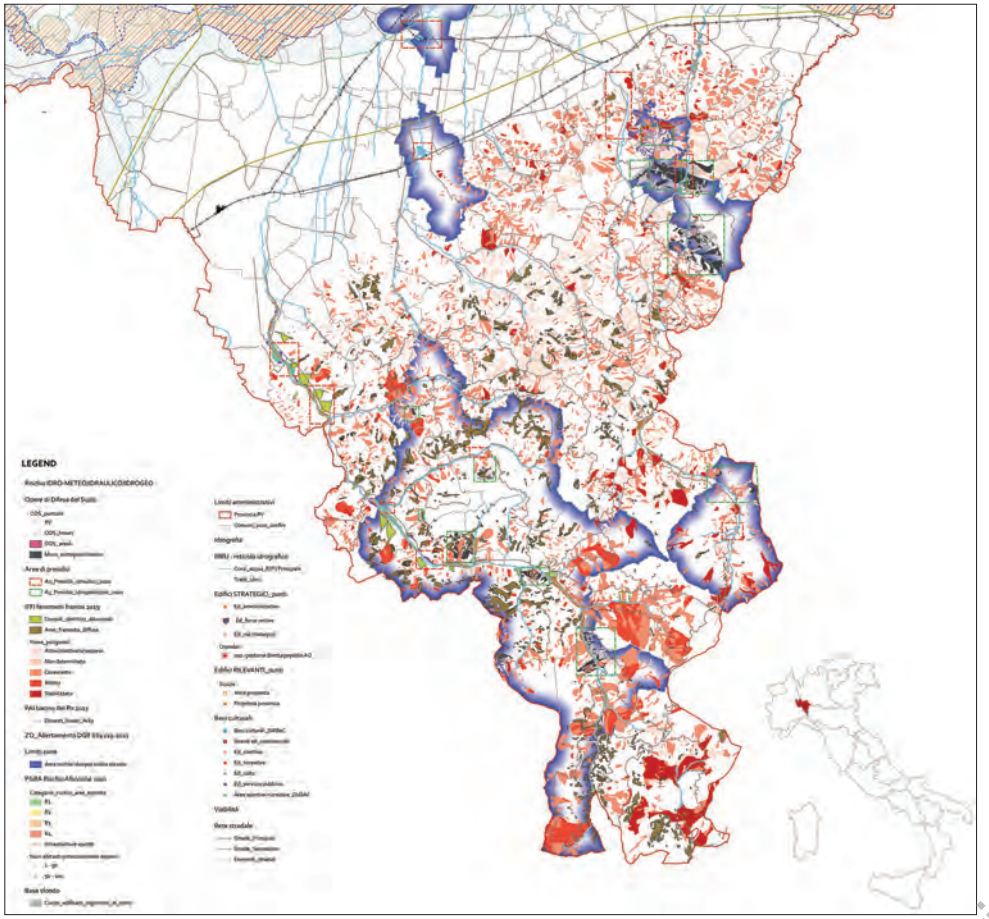

Fig. 1.
Hydrogeological risk map of Oltrepò Pavese, Lombardy Region

Special Workshop

Green Oasis for the 15 minutes city model

Coordinator
Fabiola Fratini

Pathways towards nature-based climate shelters in school environments

Isabel Ruiz-Mallén, Mamen Artero Borruel**, Filka Sekulova****

Nature-based climate shelters in school environments are understood as co-created and nature-based interventions for responding to climate change in schoolyards and school surroundings that promote biodiversity conservation, social equity, learning and wellbeing regards children, other school community members and the neighbourhood actors around schools. In the last years, municipal programs implementing these nature-based solutions for climate change adaptation in school environments are increasing throughout European cities, but how to establish effective governance arrangements to reach these transformative urban changes is still an unresolved question.

In this work, we shed light on collaborative governance strategies leading to transformation capacities of nature-based climate school shelters by discussing the limitations and opportunities of current experiences and management practices regarding the three challenges of the Green Oasis framework: ecological, social (governance) and eco-pedagogical. We rely on the evidence and data gathered through two initiatives.

One the one hand, the European research project COOLSCHOOLS (https://coolschools.eu) that assesses the co-benefits of these nature-based interventions for climate adaptation in schoolyards regarding six analytical dimensions: children's cognitive and behavioural well-being, accessibility and equity, socio-cultural perceptions (e.g., safety), biodiversity conservation, inclusive governance, climate and green education, by using the case studies of Paris, Brussels, Rotterdam and Barcelona. Preliminary results show that transforming schoolyards into nature-based climate shelters can support gender inclusion by providing multi-functional play spaces, can reduce children's inequalities in access to urban green spaces when interventions are placed in disadvantaged neighbourhoods that are equipped with fewer green spaces, promotes students' wellbeing by providing comfortable spaces, can increase urban green connectivity due to the richness of vegetation species and insects hosted by these green schoolyards, and can offer new learning opportunities for students.

However, most of these nature-based climate school shelters often suffer from a lack of pedagogical approaches to support their educational use because they are only envisioned as play spaces. Many teachers in these schools acknowledge having felt insecure when designing and implementing curricular activities in the schoolyard due to lack of training in outdoor education. It is necessary to develop teaching capacities in outdoor learning by offering tools and resources on how to teach different subjects outside and providing them with guidelines on how to organise students and their work outside. It is also crucial to review and adapt the schools' pedagogical project or approach to integrate green schoolyards into the school as a learning space.

On the other hand, the program PATIOS x CLIMA (https://patisxclima.elglobusvermell.org) developed in Spain in which public administration and school communities are united in the challenge of greening education, an agenda that is also promoted by UNESCO through the Greening Education Partnership. PATIOS x CLIMA gathers experiences from all over the country offering tools to the educational communities or administrations on how to implement these transversal projects. The program and its different actions aim to establish a framework of action and reference based on the renaturation of school spaces, both at the legal-administrative level and in practical issues of community, pedagogical and design action. These actions include:

Informative days with conferences, meetings, roundtables, presentations, seminars, workshop, exhibitions, dissemination materials, open spaces. In 2024 we will be celebrating the 8th edition.

Training programs to establish a framework for action in greening school environments that are targeted to different actors from the educational ecosystem (families, teachers, children, local administrations, neighbourhood agents…) through various formats (intensive weekends, 4 sessions seminar, 2 hours session, etc.).

Greening projects development by providing assessment to educational communities to carry out the transformation processes of their schoolyards and/or other spaces, using permaculture as a design tool in schools to deal with climate change. Collaborative design of projects, executive projects and construction management and advice for participatory maintenance and its curricularization.

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A governance program or community action program working with educational ecosystems to activate communities promoting the auto-organisation by using the schoolyard as a relational space to increase city resilience.

School support and counselling by providing financial advice and grant management, legal procedures for the implementation or execution, Adequacy Certificate of play structures, and technical and pedagogical support.

Public administration support and counselling such as the implementation plans greening municipal schools and educational environments, the courtyard as a green infrastructure of the city, advice on the Municipal Education Plan for the Environment, technical conferences and coordination of the table of experts at national level.

Greening schools for climate adaptation in cities is a collective process that reinforce the active participation of citizens and contribute to improving environmental conditions at the urban level. Increasing the presence of nature in the city is key to mitigating the effects of and adapting to climate change, while maintaining the biodiversity of the ecosystem and increasing its resilience. Technical solutions based on nature, permacultural or regenerative design help us to meet the challenges posed by these projects (increasing biodiversity, flora and fauna, diversification of soils, management of rainwater or drinking water, creation of fresh and pleasant places, diversification of uses, high, medium and low intensity activities, or free circulation and adaptation of accesses...)

These ecological and technical issues that guide the physical transformation of schoolyards must be accompanied by social and eco-pedagogical aspects to ensure that the transformation also happens at the social and educational levels as well as to maximize the co-benefits of these nature-based interventions for children and the other members of the educational ecosystem.

Fig. 1.
Transformed schoolyard through greening and a pedagogical approach in Barcelona

Fig. 2.
Children involved in the process of greening their schoolyard in Granollers, Barcelona

Enhancing Inclusive Urban Spaces: An innovative co-creation methodology for and with autistic children

Raquel Colacios, Blanca Calvo***

Despite enormous progress in making public spaces inclusive and accessible for all, some collectives, such as neurodivergent people still face difficulties in using and enjoying urban public spaces, in particular, children with Autism Spectrum Disorders (ASD). This aggravates their risk of social exclusion and prevents them from playing and exercising outdoors, especially in green public spaces where there is evidence of multiple sensory-motor, emotional, and social benefits of nature for children and youth with ASD ranging from anxiety reduction to improvement of sensory skills (Chawla et al., 2013; Li et al., 2018; Wells and Evans, 2003a). Studies demonstrate heightened sensory engagement and motor skill development in natural environments, with children exhibiting increased agility, balance, and coordination, alongside greater tolerance for sensory stimuli and enhanced attention spans. Despite the potential benefits, interaction with others remains a challenge for ASD children, with outdoor play offering opportunities for parallel play but also inducing anxiety in unfamiliar social settings. Emotional benefits include stress reduction, relaxation, and enhanced positive emotions associated with spending time in green spaces, offering ASD children a conducive environment for emotional well-being and relaxation, compared to more structured urban settings.

Understanding these benefits underscores the importance of incorporating nature-based elements in public playgrounds to foster inclusivity for autistic children. In a moment in which cities, like the case of Barcelona, are in a process of urban transformation from the implementation of the well-known "Superblocks" to the "Green Axis and Squares Superblock BCN", to the "Plan-for-Play in Barcelona's Public Spaces" which intends to improve and diversify 900 playable areas by 2030. The strategy focuses on enhancing the right to play and fostering physical activity in the public realm for all, especially children and youth. In this transformative process, the invisibility of the ASD Community in the city's urban planning strategies exposes gaps in both social awareness and urban practitioners' knowledge about this collective's specific needs - gaps containing broader social costs if left unattended.

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The research presented here was developed in 2022 and delved into the complexities associated with social interactions, difficulty with new experiences, sensory processing differences, escaping behaviors, and weak gross motor skills, all of which significantly influence the design and usability of outdoor spaces for children with autism. The study aims to reconceptualize public spaces to better accommodate neurodivergent individuals, with a specific focus on children with ASD and their families. Through an enhancement of nature-based solutions in selected public playable areas, the project explores novel design strategies that intertwine inclusive play with natural elements. The research employs a comprehensive mixed-method approach, incorporating qualitative and quantitative data collection methods to examine the challenges and limitations encountered by autistic children in public play areas, while also exploring their play preferences, sensory responses, and social interactions during playtime. This multifaceted approach encompassed various methodologies, including shadowing processes, where we closely observed and documented the experiences of autistic children to identify their limitations and obstacles. Surveys, consisting of structured questionnaires and interviews, were administered to a broader participant group, yielding quantitative data on different facets of their play experiences, challenges, and preferences. We also conducted participatory "performative" workshops, encouraging autistic children and potentially their families to express themselves creatively and engage in activities illuminating their sensory experiences and play preferences. These workshops aimed to gain insights into the play preferences of autistic children, with a focus on their interactions with diverse play elements and spaces, their movements, and the sensory experiences stimulated by these elements.

In our study, a total of 17 children participated in all four workshops. They were conducted in open public spaces within Barcelona. The first three workshops were organized in La Gran Clariana and were conducted in a fenced green open space, strategically located away from vehicular traffic. This location provided a high level of tranquility and safety, which is relatively uncommon in the city. The final workshop took place in the schoolyard of Jaume I school, which had recently undergone a naturalization process.

Fig. 1.
Children and their families during the workshops

Fig. 2.
A calm haven in Jaume I school

In the four workshops, we defined a specific workshop area and set up temporary nature-based installations, where children were encouraged to freely engage and experiment (Figure 1). The play-scape designed for the workshops and the play elements included were thoughtfully selected to stimulate various senses, including proprioceptive, tactile, visual, and auditory experiences, and to provide a calm and refuge in case of overstimulation (Figure 2).

The study uncovered various challenges inherent in the existing design of public play areas, including issues of overstimulation, the appropriateness and variety of play elements, as well as concerns surrounding safety and security. To address these challenges, a comprehensive set of design guidelines was developed (Calvo, et. al. 2022). These guidelines are intended to pave the way for a more autism-friendly play landscape within the city, offering insights and recommendations to promote inclusivity and enhance the overall experience for children with Autism Spectrum Disorders (ASD) and their families.

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A glimpse into the world of urban forests

*Tullia Valeria Di Giacomo**

Trees in urban contexts provide a series of concrete and intangible benefits and broadening our gaze on the territory and considering the worsening effects of climate change, the mitigating role of these living beings is now unanimously shared at an international level. Forests, in particular, are crucial for mitigating climate change: the positive consequences of this presence at a local and regional level on climatic conditions can be important. In the urban environment while providing contributes especially in lowering surface temperature in summer and during periods of extreme heat above all ISPRA highlight the primary role in carbon sequestration, in the mitigation of pollution (atmospheric and acoustic) and in the conservation of biodiversity and ecological connectivity (1).

In the framework of improving the liveability of urban environments, the most crowded territories on earth inevitably affected by the increase of sustainability critical issues, the awareness that intervening in "greening" of cities guarantees short and long-term benefits in tackling climate change and contributing to human health. According to recent studies, urban forestation represents one of the green infrastructures most cited in scientific literature (2) regarding regulatory purposes such as thermoregulation, rainwater management or air quality. The growing interest in urban forestry is driven by several reasons that promote environmental sustainability, people's health and cities' resilience in the face of global challenges. The Guidelines on biodiversity-friendly afforestation, reforestation and tree planting highlight how trees, as part of green and blue infrastructure, are essential for the implementation of various nature-based solutions. Green Infrastructures (GI) are clearly defined (4) as networks of green and blue spaces in urban areas, designed and managed to provide a wide range of ecosystem services and other benefits at all spatial scales. In fact, these plants allow biodiversity and ecosystem services to be taken into account, including resilience to the effects of climate change, such as heat waves and drought (3). Furthermore, trees in urban contexts have been shown to have positive effects on people's health by providing areas for recreation, promoting physical activity and offering a green space to relax and regenerate with the direct consequences that the presence of trees can reduce stress, improve the quality of sleep and promote psychological well-being (5). From a social point of view, the contribution that these tools have in strengthening the community and improving the aesthetic appearance of cities should also not be overlooked. Trees and green spaces in cities concretely improve the overall aesthetic appearance, making urban areas more pleasant and attractive for residents and visitors. Urban forestation often involves community participation, encouraging collaboration between residents, local businesses and local authorities. This type of involvement can help create a sense of belonging, increase inclusiveness, improve social and intergenerational cohesion and promote awareness of environmental issues (6). Research and good practices developed on urban forests such as NBS show promise but it is necessary to develop multidisciplinary and interdisciplinary approaches that take greater consideration of social and economic aspects (5).

At the same time, the numerous benefits of urban forestry are currently accompanied by physical or management critical issues (7) among which, in addition to the understandable issues related to care and maintenance, there are problems linked to the selection of the most suitable and durable species, the limited space to host trees in densely built areas and consequently also competition for the use of space to be dedicated to the forest.

The opportunities and risks associated with require a systemic and holistic approach because urban forestation remains, despite the critical issues highlighted, an important strategy for addressing environmental challenges and improving the quality of life in cities for all.

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Fig. 1.
Example of Urban Microforest in Rome, San Lorenzo District

Fig. 2.
Example of Urban Microforest in Rome, San Lorenzo District

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Greening the 15-minute city: the Eco-Pedagogical Microforest challenge

*Fabiola Fratini**

The call for greening the city is a subject of significance considering that cities need more than ever to be sustainable, time for changes is short and Urban Forestation is the easiest and fastest way for cities to try and mitigate climate change impacts and increase resilience, especially in the dense city.

The question underlying the research and illustrated in the paper is how to promote and spread Microforestation as a component of the 15 minute model to enhance environmental, social and educational quality within urban planning tools.

The proposed methodology is articulated in five main stages. The first is dedicated to building a multistakeholder and multilevel partnership. While the second consists in the design and realization of Microforests, the third is focused on the Eco-Pedagogical Pathway. The data gathered to implement the assessment stage (the 4th stage) are partly released by young citizen science actions, partly from the sensors, partly from surveys and questionnaires. The last stage concerns dissemination and network building with other European Microforestation experiences, such as Earthwatch Europe and IVN association.

The Regeneration Program "15 projects for 15 Municipalities for the 15-minute city, implemented by the city of Rome from 2023, provided the opportunity to experiment "for real" the research concept. The Program intends to enhance the everyday-life spaces (Jacobs 1961) through a challenging multilevel process that brings together the planning department of the city, 15 municipalities, the teams in charge of the regeneration master plans.

15 neighborhoods, one for each municipality, have been selected for this purpose taking into account morphological and functional characteristics. Public and green spaces, mobility, sustainable urban surface materials are the main concern of the program. The green plays a central role as an ingredient to support the revitalization through green and blue local infrastructures. Within this multifaceted framework, the Eco-Pedagogical Microforest has been considered by the city of Rome as being a kick-start project able to bring together associations, citizens, young people and nature; an opportunity to spread the knowledge of the program itself and realize the first dot of the neighborhoods' green network.

As the NBS Institute suggests, there is an urge of green within every-day-life-spaces that can be filled according to the 3-30-300 rule for greener, healthier, and more resilient cities, which means at least 3 trees in sight from every home, school or workplace; no less than 30% tree canopy in every neighborhood; and never more than 300 meters to the nearest public green space (NBSI, 2023). Therefore the Eco-Pedagogical Microforest becomes the "neighborhood forest", a handy "small and wild reserve" that contributes to health and wellbeing, as well as to climate change adaptation (Konijnendijk, 2021).

The first prototype has been developed by Sapienza University through a Third Mission fund in the San Lorenzo district of Rome in 2023, with the collaboration of the Municipality II, the local schools, Lazio Region that donated the plants.

Thanks to the success of this experimentation, an agreement has been signed between Sapienza University, the City of Rome, the Tuscia University, and 15 Microforests will blossom throughout the city from 2024 to 2025.

Surprisingly, this small size forest can turn into an outdoor "scientific playground", a window on a patch of mediterranean landscape and above all a real action to make young and very young people understand that they can act, immediately, to mitigate the effects of ongoing climate change. In this regard, the process is articulated in two modules. The first is aimed at involving university and high school students, secondary school pupils in a "10 steps training course" and citizen science activities that take place for monitoring purposes. The second consists in a digital project designed to transform the Microforest in a data collection station, using trees as sensors to gather information on

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local environment (temperatures, humidity, pollution,…) plants wellbeing and resilience to climate and urban stresses. The topics discussed within the "10 steps training course" include biology, zoology, urban planning, hydraulics, transport and philosophy, while hard sciences such as fluid dynamics, electronics and aerospace will help to build the monitoring station. Open source information are a key to increase people participation (level 3 of Arnstein's participation scale, 1969) but to empower the citizens, especially the very young, and transform them in "nature's caregivers", the designed process supports surveying mixed groups (level 6), scientific communication activities to thrive future green project's leaders (level 8). At the end of the process the Microforests will be created, between the end of 2024 and the beginning of 2025, during the winter. The first 5 Microforests are hosted in Municipalities III, IV, VI, X, XV; the others will be built between 2025 and 2026.

Within this framework, the role of the scientific community (Sapienza, Tuscia and ISPRA) is to design an innovative, humanistic and digital path, capable of transforming knowledge into a "serious game", enhancing the quality of young people's personal experience by increasing eudaimonic well-being, nurturing positive emotions, promoting involvement and improving social integration and connection with nature.

Fig. 1.
The Microforest of San Lorenzo, after 8 months (October 2023)

Fig. 2.
Outdoor lesson: measure the trees growth, San Lorenzo Microforest 21 November 2023 – World Tree Day

The "Biophilia Hypothesis" as a Nature-based Solution

*Costanza Majone**

Humans are increasingly aware of the widespread environmental crisis. The need for actions and solutions is now widely recognized as a common concern of humanity. However, the growth of awareness occurs in increasingly urbanized places where contact with nature is becoming less prevalent.

In that context, "biophilia" can help create a practical foundation for building awareness and attentive citizenship. Biologist Edward O. Wilson defines biophilia as *"the innate tendency to focus upon life and lifelike forms, and in some instances to affiliate with them emotionally"* (Wilson, 2002). Biophilia, then, is a characteristic peculiar to Homo Sapiens. It represents a *"complex set of learning rules"* related to correctly interpreting the surrounding environment and its inhabitants.

Indeed, through the experience of nature, we discover that its value for us is multidimensional, and each dimension represents a mode of connection with and dependence on the natural world. Biophilia is the comprehensive and cumulative concretization of natural values; it is their interactive and synergistic expression, and its practice generates potential adaptive benefits by making our relationship with the rest of the living state of matter coherent and current. Indeed, humans rediscover nature's importance beyond its instrumental utility through biophilia's development. As biologist Stephen Kellert writes: *"The biophilia hypothesis proclaims a human dependence on nature that extends far beyond the simple issues of material and physical sustenance to encompass as well the human craving for aesthetic, intellectual, cognitive, and even spiritual meaning and satisfaction."* (Kellert, 1993). Because of these characteristics, biophilia can help solve the environmental crisis by changing the now unsustainable relationship between humans and nature. In this sense, if developing biophilia can improve the relationship between humans and the natural environment, and if humans are capable of biophilia for evolutionary reasons, biophilia itself can be considered a nature-based solution.

Thus, biophilia is a kind of biological method of cognition: it needs the trigger of experience to materialize, but the innate basis guarantees its possibility. Therefore, biophilia is a latent heritage of human beings even when the direct experience of nature is diminished, and its stringent connection with survival seems less immediate. So, biophilia represents a natural human ability that can be expanded, improved, and exercised even today.

So, restoring the experiential trigger, namely, contact with nature, is necessary to ensure the recovery and fulfillment of our biophilic capacities. That can happen in many ways, such as through artistic practices like naturalistic photography, allowing for an indirect experience of nature. Alternatively, direct experiences can be gained by intentionally spending time in the natural environment. However, for the impact to be lasting and substantial and for biophilia to manifest as an exercise in awareness and learning, the experience of nature should be an integral part of everyday life through dedicated places within the community's living space. Therefore, the design of urban space is of primary importance. The "natural place" must be integrated into the urban context to be accessible daily: involvement must be direct, and encounters must be close and easily achievable. How do we achieve this possibility? One example among many is micro-forestation, an urban planning practice now present in many European cities, introduced in Italy by Fabiola Fratini and her multidisciplinary research group. The eco-pedagogical microforest of the Parco dei Caduti in the San Lorenzo neighborhood of Rome is an NBS in the classical sense because urban forestation generates ecosystem services that can help mitigate environmental problems. At the same time, it makes the community participate in an ecosystem and its spatial and temporal evolution in a small space that *"easily fits in any kind of public space"* (Fratini,2023). Here, the encounter with nature can become daily, elicit emotional responses, generate curiosity, and awaken biophilic capacity. Urban

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forests respond to that biological need for connection with the living world, a direct and synchronous connection that, through the repetitiveness of experience, informs the development of the individual.

The biophilic tendency is a species-specific capacity but an attribute of the individual. So, the exercise of biophilia is a human need whose satisfaction contributes to a fuller and more satisfying personal existence. Recovered biophilia becomes a stimulus to act: known psychophysical benefits fuel the commitment to action. Urban natural places thus find further purpose: they allow the experience of nature and the opportunity to take an active part in preserving it. The pedagogical-educational component becomes prominent in giving impetus to the development of biophilia: by exploring the various ways we can contribute, nature's values are illuminated. We thus find another way to recover contact with nature: Citizen Science projects.

The circle is virtuous: the urban natural place enables the experience that activates biophilia; this generates well-being and awareness, and the latter triggers a willingness to be an active participant, resulting in further contact with nature that fortifies biophilia.

In conclusion, through the appropriate design of urban contexts and the population's involvement, biophilia begins to exercise its adaptive role again, becoming an NBS based on human nature, an H-NBS.

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Rotterdam: the green agenda
Making the city greener and more climate adaptive

*Miranda Nauta**

With Europe's expected level of urbanization reaching 83% by 2050, climate crisis is both a global and an urban issue. Cities consume 78% of worlds energy and generate over 60% of GHG emissions. As extreme weather events like drought, flooding and heatwaves are more frequently affecting citizens, European cities and metropolitan areas are stepping up as important actors against climate crisis, widely implementing greening to mitigate and adapt to negative impacts of climate crisis. Our most vulnerable communities are hit hardest by climate crisis while paradoxically, they also benefit less from climate adaptation measures such as greening interventions. As European policy makers struggle with aligning their climate adaptation plans with social objectives, we must take equity into account so that policy interventions don't further increase inequalities. Therefore, we need to prioritize reducing climate risks for these communities while actively engaging them in our greening strategies.

Rotterdam is the second largest city of the Netherlands, home to over 650.000 inhabitants from 170 different cultures. With almost all its larger Rijnmond Region situated up to 6 meters under sea level, more heavy rainfall in short periods of time and temperatures rising to 38.9 degrees, a good adaptation strategy is required. More green is an important measure to combat the effects of climate crisis and has a positive effect on health and wellbeing.

Rotterdam Goes For Green, is the new Green Agenda of the City of Rotterdam and a continuation of our previous Green Agenda that succeeded in adding 20 ha of green to the city. The new Green Agenda is a more bundled approach of the programmes Biodiversity, Climate Adaptation and Greening the Public Space. It strives for a holistic approach where also objectives for a more healthy and inclusive public space are envisioned, connecting to the ambitions of the social domain such as health and wellbeing through the programme Health and Inclusion, alongside Mobility. Although the time frame of the policy instrument covers the period 2022-2026, our Green Agenda continues within our overall climate adaptation programme Rotterdam Weatherwise, ensuring that policy improvements will be realized beyond 2027 and further. The main objective of the policy instrument is adding 20 ha green to Rotterdam, both by the municipality and through neighbourhood initiatives. This objective is driven by the conviction that green adds values with relation to climate adaptation, biodiversity, an attractive environment for enterprises and citizens, social cohesion and health and wellbeing. The plan is structured around six strands, and covers all scales, from close to home untill green connections within the city and from the city outwards.

1. Green close to home: The outside begins at the front door. The street, neighborhood and district are the places where many residents spend most of their time. That's why encouraging and achieving green spaces close to home is an important part of the green approach. We support neigbourhood's initiatives, subsidize nature based schoolyards and have subsidies for green roofs and greener gardens;
2. Green in the districts: A great deal needs to be done in the districts where greening is concerned: more biodiversity and measures for climate adaptation. We can achieve a large amount of greenification with a relatively small amount of money by aligning with other maintainance plans for the district which are in the works. We make sure we include plants which are appealing to animals when we plant greenery;
3. Tackling 15 squares: We're renovating 15 squares in neighborhoods and districts with new and better greenery and are also introducing additional measures to combat flooding, if so required. This is how we're making these spaces nicer to spend time and play in. The squares we're renovating are situated in areas where the need is the greatest;
4. Green routes along the water: We're working on improving four important green routes throughout the city and leading out of the city. These routes will be used as walking and cycling routes, but also for sports activities. And, of course, they can represent an important connection for animals too;

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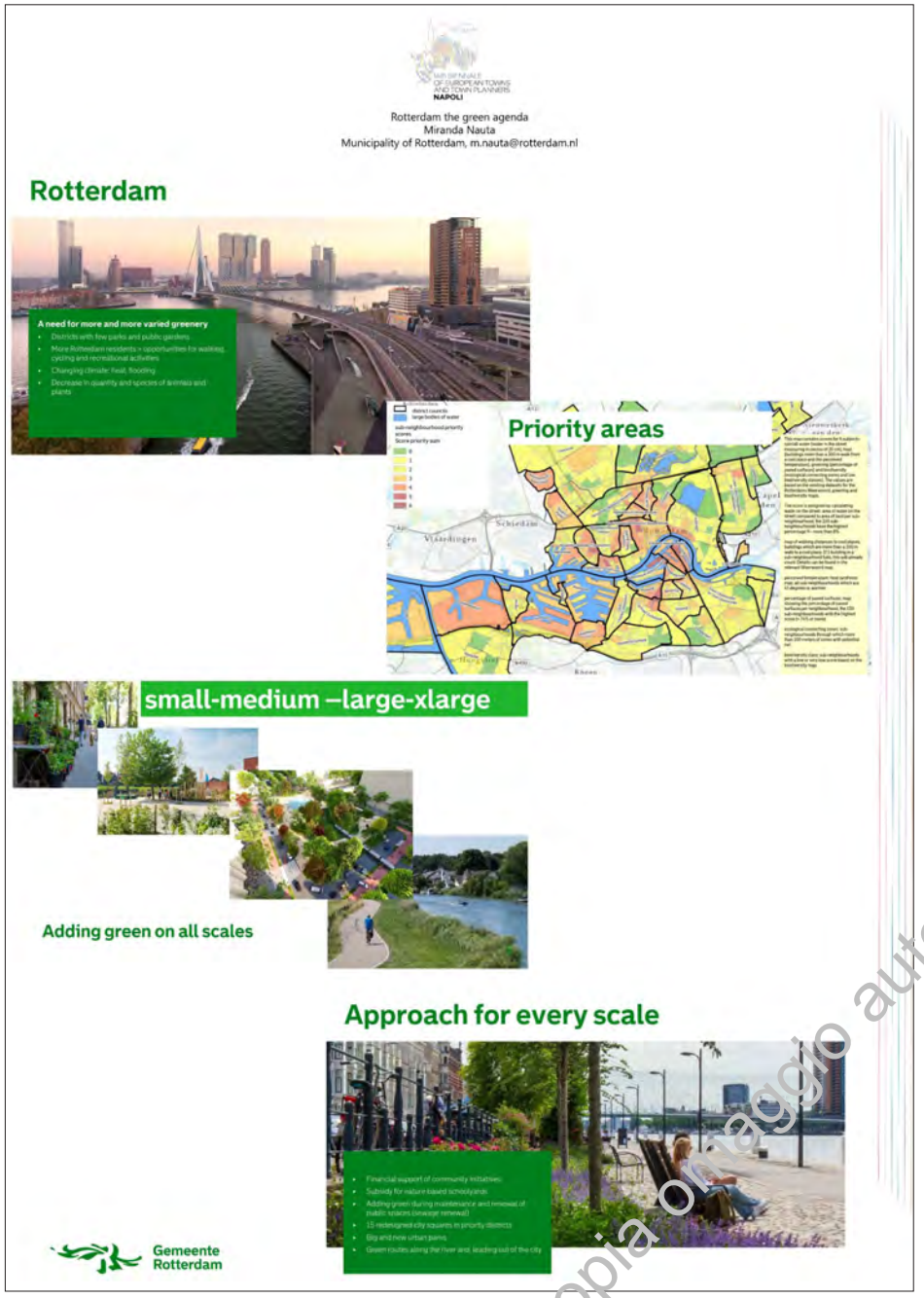
5. Improving of existing parks: This improvement program aims to boost the greenery and trees in parks, enabling them to become healthy again, thereby improving the park as a whole;
6. New city parks: we will realise big green city projects within the next years: attractive public spaces and parks where residents and visitors can enjoy recreational activities and meet up.

Wirh the example of the Rotterdam green agenda the special session intends to animate a multidisciplinary debate to provide guide lines and references for cities and support further collaborations.



Tiny Forests within the urban fabric

Bartolomeo Schirone, Livia Schirone**,***, Samir Attia**,***, Elisa Manzino***, Barbara Beccaria*** and Fausto Pistoja****

Tiny forests are not a new type of garden or a recent alternative to the traditional garden. They are assortments of plants chosen to create a scaled model of a natural cenosis governed by the processes of self-organization and self-sustenance that characterize complex systems. Especially tiny forests created according to the Miyawaki method can fulfil an environmental education function that is lacking in traditional gardens, even those with a more naturalistic footprint such as English gardens. In them, the typical successions of forest ecosystems are observed by making people understand the significance of the phenomena of competition and cooperation that, in nature, control the relationships between organisms. This can become a powerful educational tool when aimed at urban populations, especially children and adolescents. In fact, as demonstrated by Gardner[1] , the theorist of multiple intelligences, a particular form of intelligence is the so-called "naturalistic" intelligence, that is, the ability of human beings to recognize and classify the different elements present in the natural environment, with particular reference to living organisms. Just as with other forms of intelligence, the level of this ability depends on the context in which mental activities have developed. It is, therefore, a matter of awakening or enhancing the aforementioned naturalistic intelligence. How? Acting on the child from the early stages of his development, applying the model proposed by the pedagogist Loris Malaguzzi[2] based on the methods of Montessori, Piaget and Papert. During the educational process, children play an active role and are left free to interact with their surroundings. In this context, teachers, together with parents, come alongside the children to accompany them along the path of individual growth. They are, therefore, the first and second educators within an environment rich in materials - a real room full of objects, defined by Malaguzzi as *Atelier* – which is offered to the children so that they can actively develop a learning project in a creative way. The Atelier thus plays the fundamental role of a third educator, together with teachers and parents. Now, it can be assumed that the concept of educational space can be expanded to include the natural environment, which thus itself becomes the third educator. In other words, the natural environment must be interpreted as an Atelier where the child can exercise his naturalistic intelligence while also observing the so-called "emergent behaviours" typical of complex systems. Such an approach, in turn, can lead him, in an unestimated time, to the *biophilia* theorized by Wilson[3]. It is not worth mentioning that naturalistic intelligence was one of the first to be structured in man as indispensable to ensure his very survival. That is why even the adult, restored to the conditions deposited in his genetic memory, could show significant reactions to this kind of solicitation. It seems clear, then, that tiny forests may represent the ideal atelier to play in restricted settings, such as urban ones, the role of environmental educator that in other contexts, especially in the past, was played directly by nature. One aspect of the design of tiny forests that has not yet been adequately analyzed but is of great importance if they are to play the pedagogical role described above, is that of their location in urban settings, which cannot be accidental. Today in the design of urban greenery, the aesthetic aspect plays a decisive role, even when the objective is of a hygienic-recreational nature. This is normal considering that in architecture and urban planning functionality and aesthetics are inextricably linked. However, beginning with the Renaissance, urban greenery abandoned the prevailing form of *hortus conclusus* that it had retained until the Middle Ages and turned to the outdoors with coincidental emphasis on the ornamental dimension. This is still dominant even in the design of modern buildings that include plants in the living structure, such as Boeri's Bosco Verticale in which greenery is primarily exhibition. For tiny forests, the ornamental role is totally secondary to the continuous interaction with the user, such

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as that which partially occurs in Pia's 25 Green Condominium. Today, however, even when located within school perimeters, mini forests always turn out to be outside living spaces on par with almost all urban greenery. Thus, their educational function is reduced or disappears. Therefore, the recovery of the concept of courtyard buildings (Fig. 1) is proposed to include the tiny forests in a space where it is always usable by all residents of the housing complex. Thus, it could play the aforementioned role as an educational Atelier for children, like an outdoor condominium kindergarten. At the same time, it would prove unifying for the entire community of the courtyard building, especially for the elderly, who would also find reasons for engagement and recreation in the greenhouses and indoor gardens placed on the upper floors as a complement to the miniforest (Fig.2). Thus, the process of plant study and knowledge could be integrated into these facilities. Finally, the management of the tiny forest would be much easier and cheaper than those located in public spaces, which, moreover, should be equally supported for their social utility.

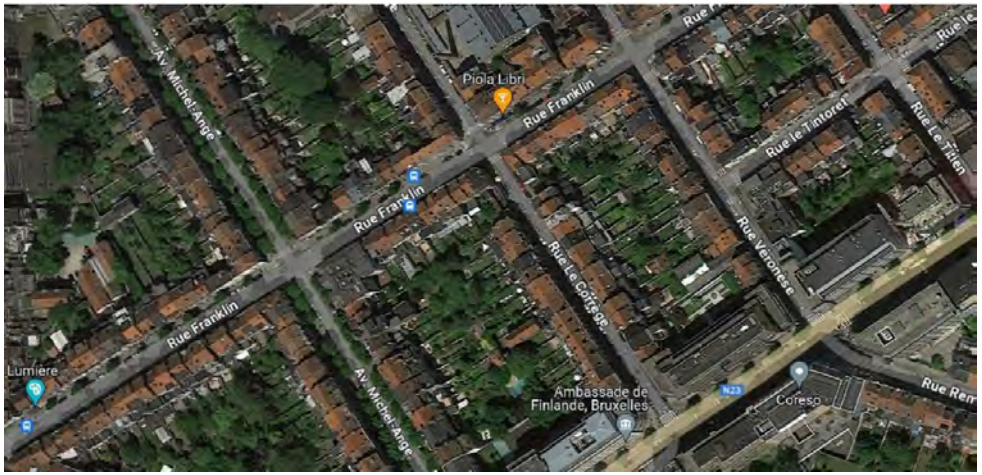

Fig. 1.
Courtyard buildings in Brussels.

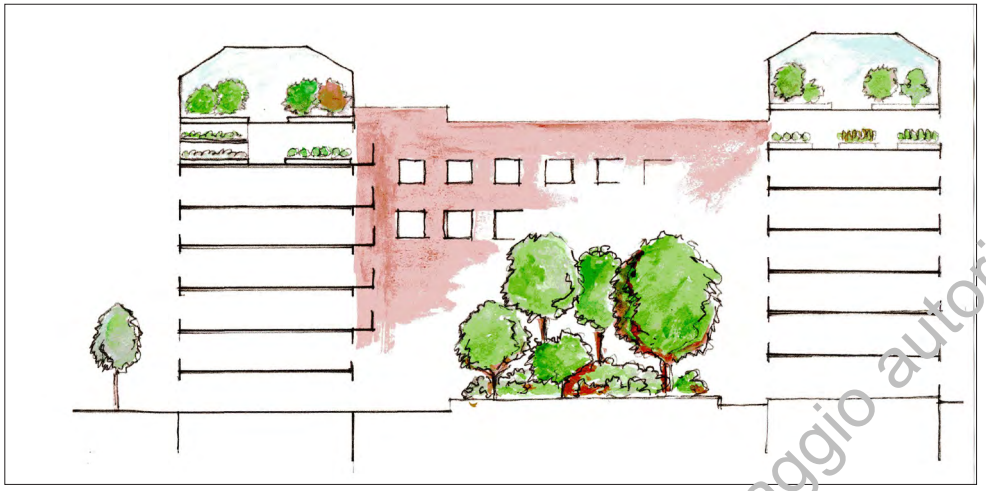

Fig. 2.
Courtyard building with central tiny forest and greenhouses and plant nurseries on the top floors.

Evaluation of the benefits of contact with nature in children

*Giulio Senes, Natalia Fumagalli**

Recent scientific literature has demonstrated the benefits of contact with nature for humans. In urban environments, such contact can become sporadic and difficult to achieve, especially for children who have very limited decision-making autonomy and who spend a large part of their day in the school environment. In this context, the design of suitable green spaces (restorative/healing gardens) in schools and the implementation of educational projects involving children in horticulture and gardening activities are becoming increasingly widespread in Italy and in many parts of the world. The Department of Agricultural and Environmental Sciences of the University of Milan (UniMI-DiSAA) conducted several research to assess, using appropriate evaluation scales, the benefits of contact with nature on children in learning environments. The results of three recent research projects involving schools and NGOs are synthesized below.

The first project is related to the creation of a healing garden in the "Cerioli" primary school in Orzinuovi (Brescia) where authors designed and realized a "restorative garden" based on the principles of healing gardens. The garden has been specifically designed to restore children from the mental fatigue and to recover their attentional capacity using the Evidence Based Design approach. In this framework, once the garden has been realized, the authors carried out a Post Occupancy Evaluation (POE) study (i.e. an ex-post verification of the benefit of the garden) involving a total of 93 children aged 9-10 years old. The research aimed to verify if the new restorative garden would allow children to obtain greater restoration of direct attention (after mental fatigue due to a classwork) and psychological well-being, compared to the courtyard usually used for recreation. The tests/scales used, according to the crossover design of the study, are the "Sky Search" test, which aims to measure the selective attention (i.e. the child's ability to select stimuli and distinguish them from the background) and the Vitality and Mental Health Scale - Children Version (VT-SM-ch), which aims to describe the state of psychological well-being and vitality of children. The statistical analysis of the collected data confirmed that the new garden is more effective than the courtyard: that children who did recreation in the garden after classwork show better attention restoration (Sky Search Test results) and a greater vitality and well-being (VT-SM scale) than those who did recreation in the courtyard. The other two project are related to gardening activities in Milan: one in the "Manara" primary school, with the involvement of 72 children aged 9-10 years old, and the other in the "Out of Class Educational Center" of Save the Children, with the involvement of 9 children, aged 10-13 years old, with problems related to attention deficit and hyperactivity. The gardening activities has been organized into 6 weekly meetings, lasting 60 minutes each, over a period of approximately 2 months. The effect of gardening activities on children was evaluated, both in the ex-ante and ex-post phases, through the SDAI scale, which can give a measure of the children ADHD. Finally, in all the three projects, two other scales were used: the PRS-Ch (Perceived Restorativeness Scale – Children version), that measures the perception of the regenerative value of a place, and the CNS-Ch (Connectedness to Nature Scale – Children version) that measures the degree to which children feel connected to the natural world.

The results of the three studies can be summarized as follows:

1. the study in Orzinuovi showed statistically higher scores of both the Sky Search test (Fig. 2C) and the VT-SM in children who passed time in the restorative garden compared to those in the courtyard; this greater regenerative power of the restorative garden also emerged in the PRS values, demonstrating that the perceived regeneration actually translated into regeneration of their attentional capacity (as demonstrated by the Sky Search test);
2. in the same study, significant correlation emerged between the PRS and the VT-SM, underlining how people who perceive greater regeneration also record a greater wellbeing, and a significant difference also emerged between pre and post, for both vitality (VT) and mental health (SM);

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Fig. 1.
The restorative garden designed and realized in the Cerioli school in Orzinuovi

Fig. 2.
Activities with the children and results of SDAI and Sky Search assessments

3. in the other two studies it emerged that gardening activities are able to significantly improve SDAI, both in relation to attention and hyperactivity (Fig. 2B);
4. all the studies showed that contact with nature (being in the restorative garden and carrying out gardening activities) generates an increase not only in PRS but also in CNS, which were also significantly correlated with each other, confirming the influence of CN on restorativeness (children with a greater CN feel a greater regenerative power of the environment).

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Spatial and social factors enabling a sustainable relationship with nature

Matteo Giusti

Human progress and development must be aligned to our ecological reality of being one species in the biosphere. Anthropocentric believes and narratives have isolated humans' development from the dynamics of the biosphere. Such disconnection in our human-nature relationships has led to the existential crises characterising the Anthropocene (e.g., climate emergency and biodiversity loss). An eco-centric relationship with nature in the design and purposes of institutions, economies, education, and politics is crucial for sustainable development. Such system-based and holistic approach to sustainable innovation would integrate social priorities and expectations within ecological dynamics and planetary boundaries. This speech presents insights from several studies about the spatial and social factors that systemically support enable Human Nature Connection (HNC) in urban planning and sustainable development.
Existing research on sustainable human-nature relationships has focused mostly on evaluating these relations as individual attitude-behaviours mechanisms, rather than as systemic relations. This approach limits the integration of human-nature relationships in planning and education. Yet, integrating sustainable human-nature relationships in nature-based solutions and nature-based education would provide many synergies to support sustainable development in human habitats.

For example, the contextual and personal meanings of nature, home, and the city that children develop over time alter their desire to work for nature (10.1371/journal.pone.0225951). While their closeness with nature improves their desire, how close children feel to cities exposes a separation from nature that directly affect their attitude to protect nature. The contextual dimension of human-nature relationships is also evident when these children were asked to describe nature, home, and the cities. Their meaning of 'nature' embeds positive emotions and memories, while their personal interpretation of the 'city' is strongly shaped by fumes, cars, objects, and the inherently unsustainable activity of shopping.

Ultimately, safe accessibility to nature experiences in the everyday human habitat is the foundation of nature-rich routines that can promote sustainable health, progress, and prosperity. Much epidemiological and clinical literature supports the link between short and long-term personal health and wellbeing, and nature interaction. However, some of the wellbeing benefits are not linked only to experiencing nature, but also its perception. HNC has also been shown to mediate the restorative effects of nature interaction in cities. Nature-based restoration happens more likely in ecologically healthy ecosystems and when people are more connected with nature (10.1371/journal.pone.0227311). Forest bathing sessions have shown to be intentionally curated to promote both HNC and well-being benefits. Integrating nature-based education within the surrounding community shows great potential to meaningfully promote people's HNC and enrich long-lasting nature routines. Spatially, forests, trees, and rich biodiversity provide many of the attributes (e.g., mind-expanding, awe-inspiring, intimate, sensorial) that define meaningful nature experiences.

Together, these insights provide rich support for the integration of nature-based education with nature-based solutions. For example, micro-forests with high ecological value are a valuable platform to synergistically promote individual and ecological health in urban environments. With the purpose to integrate this work, this speech will end by presenting a practical framework that can be used to assess meaningful nature experiences, to evaluate their impact on HNC, and to evaluate the research and design of the interdependencies of nature-based solutions and nature-based education.

Democracy and the experience of nature

*Simone Pollo**

Since the romantic tradition making experience of nature has been regarded as essential for human flourishing and growth. Such an idea (developed also by American Trascendentalism) has been furtherly developed by 20th Century Environmental Ethics and Aesthetics. Supported by E.O. Wilson's "Biophilia Hypothesis" we can regard the experience of nature as a fundamental and necessary part of the development and flourishing of human being. Nonetheless, experience of nature has not only importance and value on the most private and personal level. Today such an experience can be regarded as fundamental for the education and the development of citizens of flourishing democracies. Ecological crisis and climate emergency are the challenges contemporary democratic societies must deal with. The development of a new relation with the environment is the new field for democratic justice in so far as interests and rights of future generations and non-human subjects are at stake. Democratic citizenship in the 21st Century must also include the awareness of the moral and political importance of the environment. Including the experience of nature into democratic citizenship needs two steps. First, a philosophical and theoretical foundation for the view of a new ecological democratic citizenship must be provided. This foundation will move from the idea that fundamental values of liberal democracy (freedom and justice) are in themselves suited for expanding and be applied to new fields such as human-animal relationships, human-environment relationships and future generations. Then, the second step will consist in reviewing the idea of democratic education. Democratic citizenship requires a continuing education and such an education nowadays requires both knowledge of nature, and affective and meaningful connections with non-human life and the environment. Providing citizens of democratic societies the opportunity of making meaningful experiences of relationship with nature (also in urban environment) must be regarded not just as a way to improve their welfare and quality of life. Such experiences are also part of the education of citizens of democracies and a new way to develop the democratic dialogue of our society. In particular, relationships with nature ad a part of democratic education and citizenship must be especially promoted in urban environments. More than half of the World population lives in urban areas (in Europe the 80% is estimated to live in urban areas). The future of democracy depends also on the possibility of inhabitants of the cities of making experience of nature.

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Special Workshop

Making/unmaking urban circular economies with ‘otherness’

Coordinators
Andrea Bortolotti
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Giulia Caterina Verga

Closing the loop, opening up the labour market

Training, reskilling, and inclusion in Brussels circular construction enterprises

Jasmin Baumgartner, David Bassens**, Niels De Temmerman****

The circular economy (CE) is hailed as a novel model for urban development that proposes to deliver a more regenerative society by integrating economic, ecological, and social objectives. The social pillar, however, tends to fall short in research and policy that prioritize innovation-focused growth agendas. In the Global North, the number one social gain to be harnessed in the transition is employment generation (Padeira-Riviere et al., 2020; Mies and Gold, 2021). Labour markets in post-industrial societies are however marked by increased flexibilization, deregulation, and workers precariousness that contribute to highly segmented markets (Seo, 2021). In the same vein, the CE transition is expected to lead both to the emergence of new employment and the crowding out of existing industries. These changes can be characterised in the form of i) job creation, ii) job substitution, iii) job destruction, and iv) job redefinition (Laubinger et al., 2019,p.385), ranging from high-end entrepreneurship to an increase in low-skilled workers in foundational occupations. Researchers thus agree that amidst the complexity of circular employment, on-site training, and the transferability and "topping up of existing skill sets" (Laubinger et al. 2019, p. 404) will be at the heart of the transition (Burger et al., 2019).

One of the targeted sectors is the construction industry, representing both a sizeable share of urban 'waste' flows and functioning as a local employer in labour markets characterized by high unemployment and socio-ethnic class divisions (De Boeck et al., 2019). Here, the majority of employment changes are expected to occur in the transition from material to labour-intensive work, warranting an analysis of emerging professions, knowledge, and skills. In this aspect, education and (inclusive) training offers are gaining importance, particularly as the sector is faced with a "real and serious skills crisis" (Dainty et al. 2005, p. 390). This crisis can be traced back to employers' hesitancy to invest in workers training in highly competitive markets, a perceived inadequacy of government interventions (Dainty et al., 2005), and a simultaneous rise in "bogus self-employment" (Behling & Harvey, 2015, p.970) that reinforces skills gaps among manual occupations (ibid., 2015). The range of involved actors underscores the need for collaboration between industry professionals, educational institutions (Guerreschi et al., 2023) and public-private partnerships, to bridge vocational education with on-the-job experience (Burger et al., 2019). A recent example of this are work integration enterprises in Flanders (BE), which help tackle regional disparities by facilitating work experience for vulnerable groups in sorting, repair, and refurbishment activities (Van Opstal & Borms, 2023). Further insights on the required skills of start-ups and the role of workers themselves are however still needed.

Bridging therefore employment and social aspects within the CE, this study examines the concept of 'otherness' through the lens of labour market inclusion, focusing on employment opportunities and barriers in Brussels (BE) emerging circular construction sector. This entails a twofold focus on its i) potential for local and inclusive *job creation*, and ii) *job redefinition* (Laubinger et al., 2020) through skilling and training strategies. Firstly, for the angle of job creation, a focus on employers and the institutional dimensions of the construction sector is taken. This entails an analysis of multi-scalar datasets on the construction industry and circular employment, to collect data on the numbers of the workers and professions affected by the transition. Further sectoral insights will be drawn from policy document analysis and semi-structured interviews with institutions (e.g. Brussels Construction Confederation) and employment centres, to gather insight into regional inclusion strategies, training and employment offers, and perceived bottlenecks. Secondly, a focus on employees is taken through case studies and ethnography-based research. Here, we offer an in-depth analysis of regional woodworking clusters that consist of social enterprises marrying product-life extension ambitions with social missions (e.g. reintegrating people into the labour market). As these enterprises tend to be located in disadvantaged neighbourhoods, wider questions of community involvement and social mobility can be tackled.

The contribution of this research thereby lies in untangling the intersections between the circular economy and urban development trajectories. By leveraging literature on urban labour markets, it addresses the literature gap on the social dimensions of the CE, drawing on wider questions of socio-spatial segregation, inequalities, and employment patterns in circular cities. By including the perspective of workers, and utilizing participatory research methods, their social embeddedness in the transition is

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highlighted. This ultimately sheds light on the role of "othered" actors and the integration of their knowledge and skills in cities transitioning from industrial production to (circular) manufacturing activities. In its wider relevance for urban town and city planners, our research demonstrates the correlation between unemployment patterns, historical land use of construction SMEs, and emerging circular construction enterprises, illustrating the underlying spatial dynamics shaping contemporary socio-economic integration in the circular economy.

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Fig. 1.
L' Atelier Bois at Circularium © Ine Wouters, 2023

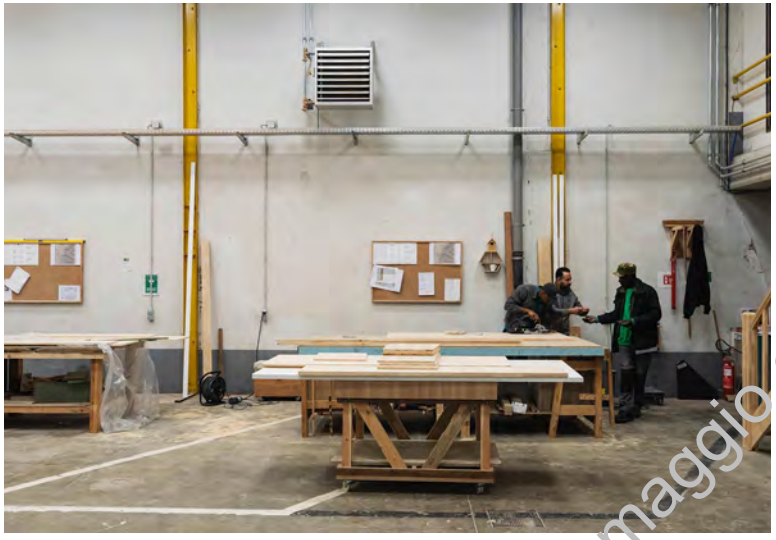

Fig. 2
Workshop of boomerang woodwork © Groot Eiland, 2023

Re-opening the circle
Steps towards an epistemologically diverse circularity

Andrea Bortolotti, Dario Minervini***

In Europe, the concept of a circular economy (CE) capable of decoupling economic growth from resource depletion and pollution has recently taken hold in many public policies and programmes. Criticisms of the theoretical, heuristic, and methodological weakness of this interpretation have been widely discussed against a neoliberal economic system conceived and organised as linear (Kovacic et al., 2019; Völker et al., 2020). In order to counteract the recursiveness and finiteness of the metaphor of the circle, a 're-opening' of its conceptual formulation is proposed that i) questions its epistemological foundations, e.g. the link between moral values and scientific modelling that informs global discourses but also the situated applications of circularity; ii) promotes the adoption of a more comprehensive approach that includes the more properly social dimension in the formulation of ecological transition strategies.

Four "moves" are proposed that "start from" and "tend towards" an epistemological diversity to reopen the closed circle of the CE: *#1 Move the circle upstream!* supports the idea of considering impacts upstream of consumption choices, rather than focusing on disposal which, despite the ubiquitous formulation of waste and pollution as a post-consumer waste problem, is often only part of the problem. *#2 Measuring the circle (differently)* recalls the need to reframe how we measure circularity to make it meaningful for end-users, citizens, and workers (formal, informal, precarious, etc.) at the frontline of material recovery and recirculation. *#3 Slowing down circularity* suggests thinking in terms of different temporalities of decay, generation, and destruction of value to help conceive material obsolescence as produced by social conventions and norms embedded in the very design, production, and consumption of products and goods. Ultimately, *#4 Caring circularity* refers to the informal and hidden work of those that underpin circularity but are excluded from its narrative and accounting. These movements aim to help rethink the implementation of circularity through local policies that can influence the transformation of the relationship between production and consumption in terms of the composition of often divergent (economic, social and environmental) priorities.

Firstly, a greater focus on prevention and reduction objectives, rather than efficiency in production and consumption, may represent a first element of discontinuity with the status quo. One example is the adoption of tax incentives to stimulate the reuse of secondary raw materials in key economic sectors such as construction, product design, and fashion. Secondly, a redefinition of monitoring strategies seems fundamental to build CE indicators that consider the experimentation, conflicts, and social practices that animate territories, for example through forms of action-research and design activism (Faud-Luke, 2009). Plans and projects should then equally address the push for digitalisation and technological innovation as well as the social innovation experienced daily in public squares, schools, workplaces, etc. to understand better, support and scale it. The third movement refers to the bioeconomy and the revision of the growth paradigm. From this point of view, the issue of local regulation appears crucial, as it comprises limiting extractive practices, reducing material flows, and managing accumulated material stocks within specific contexts. Lastly, the rhetoric of local valorisation, often limited to a territorial marketing strategy and emphasis on identity and typicality (of products, landscapes, experiences), will have to be combined with support for the development of fair and solidarity-based exchange systems that strengthen social cohesion and encourage the strengthening of local networks that convey relational goods.

The above raises the need for grasping territorial specificities and developing place-based policy approaches that consider the capacity embedded within each territory and promote the design and implementation of inclusive and participatory policies (Tapia et al., 2021). This is what exposes the perfect notion of the circle to the messiness of

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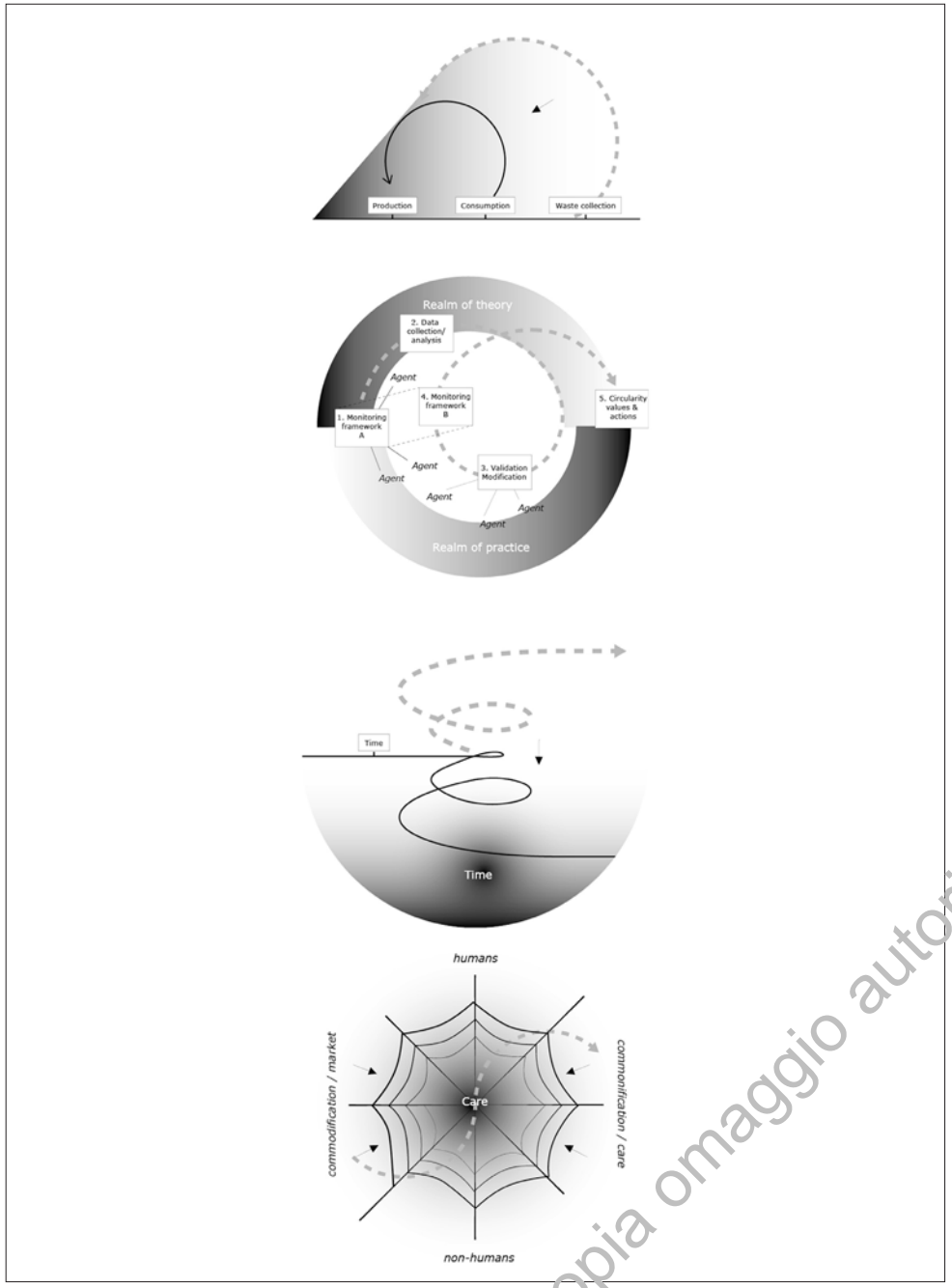

Fig. 1.
The four conceptual "moves" to reformulate the scope (#1 Move the circle upstream!), accountability (#2 Measuring the circle (differently)), temporality (#3 Slowing down circularity), and inclusiveness (#4 Caring circularity) of present and future circular project trajectories (elaboration: A. Bortolotti).

practice and politics. Within this framework, reopening the circle means reopening the possibility of implementing alternatives, including different epistemologies (and not only economic rationality), accepting that a trans-disciplinary and post-normal dialogue between sciences, practitioners, and laypeople (Funtowicz and Ravetz 1993) can prefigure a plurality of models in which socio-material flows are articulated. In conclusion, the politicisation of circularity constitutes a fundamental theoretical and practical exercise to avoid reifying forms of legitimisation which, as in the case of modern industrial linearity, has often not gone beyond the adoption of a rhetoric of green sustainability. However, the theoretical and practical activation at the same time of an epistemological pluralism that reshapes the relationship between production and consumption in an eco-social perspective is a twofold challenge, as it requires space for experimentation but also the tools (and the political will) to recognise and make visible the alternatives that are already in place, even if they are disregarded and placed at the margins of the closed circle.

Planning and Designing Circularity and Socio-Ecological Transition in Europe and Beyond: Is Technical Neutrality Really a Thing?

Silvio Cristiano, Luca Tricarico***

In the wake of unprecedented global challenges, the imperative for socio-ecological transition – in which circularity discourses to reduce waste are also present – has become increasingly evident. This proposition delves into the heart of this discourse, focusing on Europe as a yet peculiar microcosm of a broader global context. The aim is to scrutinise a critical aspect of this transition – the concept of "technical neutrality". Does the notion of technical neutrality hold water in the complex interplay between societal transformations and ecological imperatives? Through meticulous inquiry and rigorous analysis, this exploration endeavors to start to unravel the intricate dynamics that shape the intersection of technology, society, and ecology.

As we navigate the path towards a more sustainable (or less unsustainable) future, the question emerges: Can technology ever truly be neutral, or is it inherently entangled in the socio-ecological fabric of our world, and currently shaped and driven by less explicit yet more powerful systemic goals? Beyond the claim that ecological transition has to also be digital and technological, what are the hidden contradictions and sources of problem shifting? How does this relate to circularity? This dialogue transcends geographical boundaries and extends its reach to global contexts, down to the colonial roots of extractive economic systems, sparking intellectual debate. We believe a transdisciplinary dialogue is needed to profoundly explore the intricate tapestry of socio-ecological change, involving a diverse range of disciplines, including but not limited to spatial planning and design, sociological foundation theory, innovation management, environmental studies, urban and regional studies, political science, economics, anthropology, and sustainability studies.

The present contribution is meant to intentionally bring provocation and other stimuli for a larger debate. In the context of the Special Session in which we have been invited, this will happen under the form of open questions, of highlights on European official records, policies, and programmes, and of connections and diagrams also resorting to systems thinking and diagramming - all of this also wondering what the real driving goals of socio-ecological transition are, with a focus on their spatial dimensions and implications.

In this framework, we identify two main themes, standing out for their territorial interest in Europe:

1. The "Circular Economy" (CE): how technological interventions align with the principles of circularity, emphasizing resource efficiency and allegedly sustainable consumption and production practices? In order to really achieve long-term sustainability goals, though, the accounting methods ought to be verified, and the overall rhythms of resource use and disposal attentively analysed, also considering possible problem shifting in space and in time. A thorough examination of CE policies may reveal that economic goals may overarch social and climate-environmental ones: transition for whom? Transition to where? Is CE's ultimate goal to gradually diminish and potentially eliminate waste, or to find new ways to extract value from what was previously discarded? Granted that thermodynamics imposes that (industrial) economy cannot be circular but is rather entropic, if every "spin of the circle" implies resource use and waste generation, is its speed addressed at all? Is this compatible with CE's declared goals and with sustainability ones? What does this implies in urban Europe? What does this implies in other territories? What can be this multi-scalarity's spatial effects?
2. The "Just Transition Mechanism" (JTM): with a total allocation of €17.5 billion, nearly one of which earmarked for Italy, the JTM aims to address the social, economic, and environmental challenges associated with transitioning to a climate-neutral economy. Through Just Transition Plans (JTPs), member states identify specific territorial challenges and propose measures for economic diversification, professional requalification, and environmental remediation, financially supported by JTM's three pillars. In Italy, our attention is focused on two identified areas (Province of Taranto

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and Sulcis Iglesiente), where JTM plans involve the engagement of institutional, economic, and social stakeholders. Based on these plans, the allocation of funds will be scheduled through Regional and National Operational Programmes. This empirical framework provides valuable insights for evaluating key aspects of the territorial plan, offering potential avenues for research on technical neutrality within the context of socio-ecological transitions.

Additional attention may be paid to the Directives Enabling Renewable Energy Communities (RECs); by examining their implementation, we can assess the progress and challenges in integrating energy communities into the European energy market. Specifically, we mean to focus on the realisation of successful implementation and a just energy transition requiring the fusion of technological advancements in policy making together with inclusive decision-making processes grounded in comprehensive analysis, engineering expertise, spatial planning considerations, and insights from social sciences. We contend that financial and ownership models addressing the complementarity of renewable energy sources, spatial distribution of resource potential, demographic dynamics, resistance from established players, and the integration of marginalised communities represent shared challenges across all Member States critical to the advancement of a fair energy transition against the misconception of technical neutrality.

Hacking spaces and artifacts
Everyday practices of urban commoning in Piazza Garibaldi

Cristina Trey, Ramon Rispoli**, Adam Arvidsson****

In Piazza Garibaldi (Naples), some migrant communities have established - over the past four decades - a unique socio-economic ecosystem. This study tries to shed light upon the role of the informal markets in the area: activities that provide a means of subsistence for these communities while also involving practices of creative reuse such as radical upcycling and technological disobedience.

Some years ago, the square underwent a radical top-down redesign that would have turned it into a 'non-place', if it had not been for the everyday urban practices carried out by migrants from Africa, Eastern Europe, Southeast Asia and China. Lacking access to conventional welfare and formal economic avenues, many people from these communities have set up different kinds of informal economies that redefined the identity of the square.

On the basis of extensive fieldwork, this study identifies the foundation of these informal markets in the sharing of 'market knowledge'. The shared spaces and resources that define the informal economies in Piazza Garibaldi can be seen as urban commons, and this collective knowledge not only sustains the livelihoods of those involved in these practices, but also reshapes the urban space according to the practical needs of its inhabitants.

The phenomenon of 'technological disobedience' emerges here as a crucial issue, as migrant people reuse and readapt spaces and artifacts without regard to their original intended use. Baby strollers, for instance, are ingeniously transformed into wheeled market stalls also through the use of discarded wood, metal, nets and other waste materials. The 'hacked' stroller - an object that can also be found in other areas of the city - fulfils two necessities of the informal street-vendors: on one hand it allows for an easy exhibition of goods, and on the other it can be very quickly displaced in the event of police arrival. It is, therefore, a clear example of a disobedient practice driven by contextual and daily needs, one that defies not only the law but also the more traditional (and normative) approaches to recycling and reutilisation.

This example makes it possible to highlight the political dimensions of waste, also within the framework of a discussion on circular economy. The unconventional practices observed in Piazza Garibaldi highlight invisibilized approaches to waste management, offering valuable insights also for a broader reflection on the issue of resource optimization. Analysing the 'radical' approaches to waste that already exist within urban environments can contribute to reframing the very notion of 'waste', by challenging the cultural assumptions on which it is usually built.

By describing intricate interplay of factors shaping the informal economies of Piazza Garibaldi and their impact on the urban landscape, this contribution aims to question conventional approaches to urban waste management and (more in general) to urban planning, and to emphasise the transformative potential of collective knowledge, a factor to be considered in the shaping of any future policies regarding our urban environments.

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Fig. 1.
Hacked stroller in Piazza Garibaldi

Fig. 2.
Hacked stroller near Piazza Plebiscito

How to support and develop (more) inclusive circularity-inspired urban projects and designs?

A contribution on bottom-up initiatives for a more just circularity: case studies from the Brussels-Capital Region

Giulia Caterina Verga, Ahmed Zaib Khan***

Cities across Europe are increasing their ambitions to embrace a Circular Economy (CE). In this context, a series of *circularity*-inspired (branded?) urban projects are emerging. In the Brussels Capital Region (BCR), CE policies have supported the development of pilot projects aimed at testing and developing know-how and strategies for implementing *circularity*-inspired ambitions in urban planning and urban designs. In this research, *circularity* is used as an entry point to ask relevant questions about the material intensity of current and future practices of urban development plans and projects. Through the prism of *circularity,* we look at the movements (consumption and waste) of materials and resources, the spaces they shape and the practices they develop. If we examine this subject through the lens of *inclusivity*, the focus shifts to the actors, both human agents and more-than-human ones. In the case of urban projects, we are particularly interested in the material layout of the built environment and the associated utilities and infrastructures. This research focuses on the quality of the open spaces generated, on planning processes, actors and stakeholders as well as on ecosystem issues (water cycles, soil regeneration, biodiversity). The aim is therefore to study these aspects and find ways of rethinking them in a more resource-conscious and holistic manner. To do this, we look at the relationships that humans establish with existing arrangements of materials, and the socio-technical challenges for a transition towards more just and sober/frugal (sufficiency-inspired) ways of envisioning urban futures.

Building on previous research on spatial factors impacting the embedding of Urban Circularity Practices (UCPs) in the BCR, we now question how ongoing strategic urban projects spatialise circularity ambitions. This paper thus addresses the following set of questions: **How are current strategic urban projects integrating circularity-inspired ambitions? Who are the actors and what are the stakes? How to support and develop (more) inclusive *circularity*-inspired urban projects and designs?** These questions are explored both theoretically, through concise international literature review, and empirically, through four case studies in the BCR. The international scientific literature on CE and urban planning and design is still in its infancy, but *inclusivity* appears to be an essential aspect when it comes to having a leverage effect in implementing such ambitions in urban projects. Fratini et al (2019) point out that the CE imaginary can support transformative pathways for socially inclusive and environmentally desirable value creation in cities. Levoso et al. (2020) argue that to implement CE strategies in urban systems requires, the involvement of local stakeholders in the identification and validation of *circular solutions* is essential. Remøy et al. (2019) suggest the use of living labs, while Fors (2021) and Mirzoev (2021) both highlight the need for long-term participation and inclusion of marginalised groups. Furthermore, the absence of an intersectional environmental perspective in the CE rhetoric of 'nobodies' (informal CE actors and practices) is highlighted by Wuyts (2022). Marin et al. (2018) argue that the development of *circular cities* requires a multi-perspective and multi-dimensional approach, rooted in place-specific and multi-scalar transition relationships, and may follow different drivers/visions and therefore different *circular* strategies.

Within the BCR, four projects at very different stages of deployment were studied. Each project deals with a distinctive context and deploys a diverse urban planning strategy dealing with *circularity* (see Figure 1). In terms of **inclusivity**, we see that **residents, activists and NGOs are drivers of change**, thanks to a well-established network of NGOs responsible for monitoring urban projects, both private and public. Their support or opposition has, in some cases, influenced and determined the course of urban development in strategic areas that had been in the pipeline for years. They criticised urban planning tools such as the PAD (*Plan d'Aménagement Directeur*, a recent regional planning tool that enables the strategic and regulatory aspects of an urban area) and

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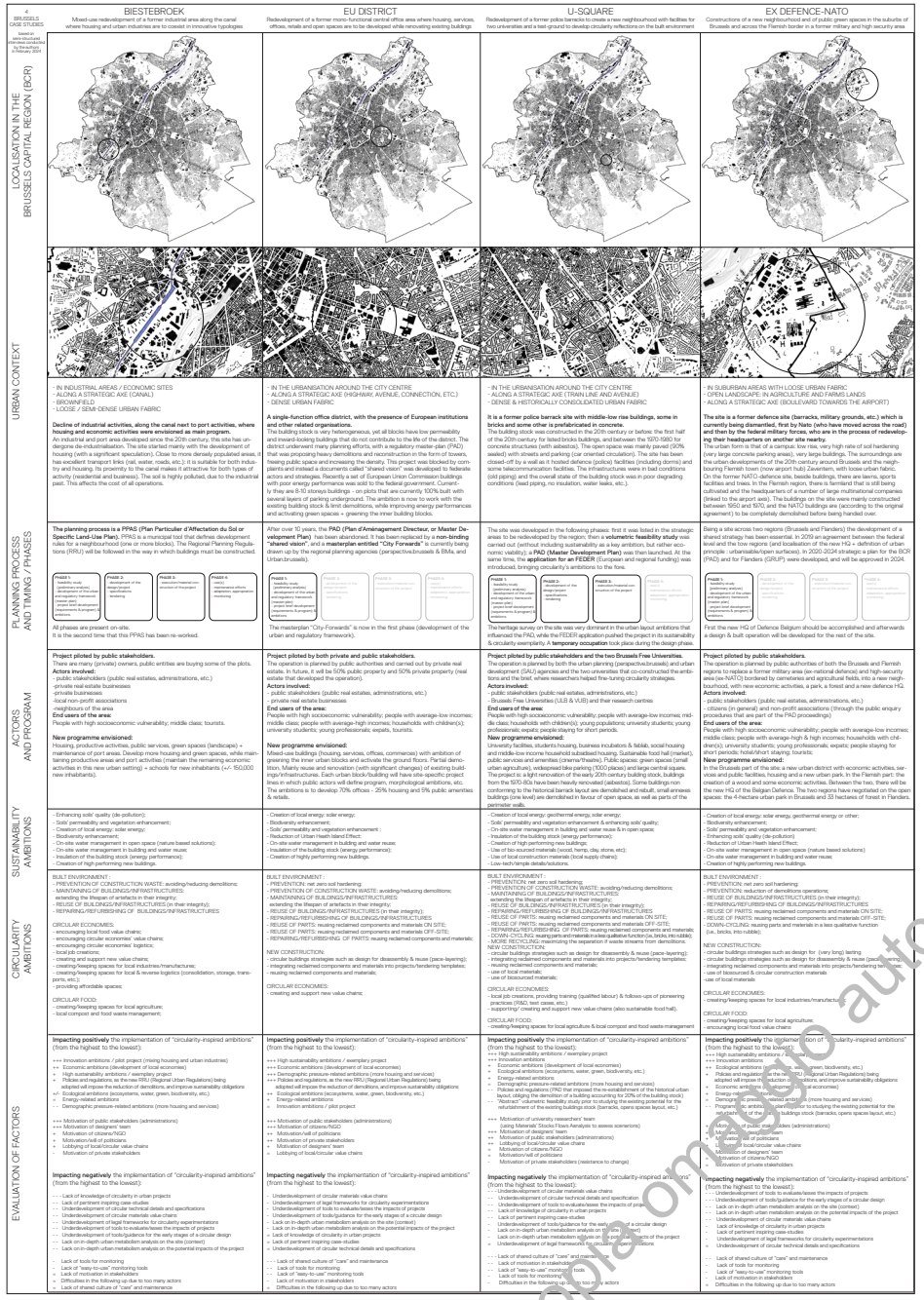

Fig. 1.

Sum-up of the four Brussels' case studies analysed organised by 1) kind of urban context and localisation 2) by planning process 3) by actors/stakeholders involved & programmatic ambition, 4) by sustainability and circular ambitions and 5) by factors (listed and ranked) impacting the deployment of such ambitions. By the authors (2024).

pleaded for more inclusive planning processes. Over the last decade such activists and NGOs criticised strategic urban projects building too densely (*PAD Law district*), defend biodiverse areas (*PAD Josaphat*) and have pleaded for renovation of buildings stocks instead of demolitions and reconstruction (*PAD Mediapark*). They have even developed alternative plans and a tool capable of showing the amount of CO2 produced by demolition and reconstruction compared with renovation. Their opposition has sometimes had an impact on the process and prompted the public planning agencies to rethink the urban tools deployed. The development of a "shared vision" document prior to the launch of new regulatory plan for the EU district is the best example of this.

To conclude, *circularity*-inspired ambitions are in the BCR context pushed from both ends (by public administrations and by inhabitants, activists and NGOs), the result is an interesting landscape of hybrid processes, that put to the fore different CE strategies. **Bottom-up initiatives (and struggles) are drivers for more inclusive circularity-inspired ambitions and practices and are currently contributing to the transition of urban planning and design towards less material-intensive paradigms** (for example, the requirement to reduce demolition, or to retain parts of brownfield sites as biodiversity reserves, or for food production, or pleading for net-zero soil hardening and increased permeability, among others).

Circularity through Ecofeminism
Embracing Inclusivity in Flanders' Urban Planning

*Wendy Wuyts**

Ecofeminism, a transformative interdisciplinary movement, intricately connects the exploitation of our environment with the marginalization of women, championing a comprehensive approach that intertwines environmental sustainability with social justice through a gender-inclusive lens. Within the evolving narrative of sustainable development, the integration of Circular Economy (CE) principles with ecofeminism provides a refined perspective for assessing and enhancing inclusivity in urban planning. This enriched approach is particularly pertinent within the Flemish context, an European region with a storied tradition of pioneering sustainable and socially inclusive initiatives, but not pioneering in the most sustainable urban planning.

Flanders, Belgium, is a demonstration of innovation in harmonizing economic, social, and environmental imperatives. This region's commitment to sustainability and social equity is evident in its early adoption and continuous support of initiatives like the Kringwinkels ('Circuit Shops') and the broader framework of eco-Work Integration Social Enterprises (eco-WISEs). While eco-WISEs play a pivotal role in engaging vulnerable populations—individuals facing disabilities or psychosocial challenges—in the recycling sector and the larger CE framework, the focus of this research extends beyond these enterprises. It situates itself within Flanders' history of social inclusivity within the circular economy, exploring how this regional commitment to sustainability and equity predates and transcends the specific instance of eco-WISEs.

The integration of ecofeminism within Flemish urban planning and policy-making processes is scrutinized, advocating for a policy paradigm that broadens its scope beyond environmental goals to embrace labor equity and social inclusion. Through an extensive examination of literature, policy documents, and interviews with key stakeholders, this study proposes a set of policy recommendations aimed at fostering a synergistic relationship between public actors, such as OVAM and Circular Flanders, and the broader spectrum of initiatives contributing to a sustainable economy. This approach, deeply rooted in ecofeminist values, seeks to create a comprehensive policy framework that not only addresses the risk of social dumping but also amplifies every citizen's role in fostering a sustainable economy, thereby actualizing a more inclusive and equitable society.

At the heart of this presentation is an exploration of the regional and municipal levels where the principles of CE and ecofeminism are being transformed into concrete projects and initiatives. Flanders emerges as a leader in this domain, with entities like Circular Flanders playing a crucial role in steering circular and inclusive urban developments. Projects such as 'Terug In de Omloop' in Antwerp showcase the application of circular principles to urban regeneration, converting brownfields into vibrant, sustainable communities. Moreover, 'Circulair Werkt' and its network of 12 regional socio-circular hubs across Flanders, from Brugge to Genk and Oudenaarde to Leuven, stand as testaments to the potential for collaboration, support, and innovation in circular social entrepreneurship.

This research places a spotlight on two illustrative case studies—O.666 in Oostende and C-Power in Mechelen and Leuven—that, while outside the mainstream eco-WISE and municipal programs, provide critical insights into the (lack of) application of ecofeminism in urban planning. These case studies serve as exemplars of how an ecofeminist-inspired compass can guide urban circular economies towards more inclusive practices, especially considering the *nobodied* and more-than-human world. The grassroots initiative in Oostende demonstrates the efficacy of community-led CE efforts, and the C-Power project elucidates the complexities of aligning social projects with funding mechanisms aimed at environmental sustainability.

An ecofeminist-informed compass, inspired by the theories and activism of ecofeminism and aligned with the New European Bauhaus movement's principles of sustainability, inclusivity, and beauty, is proposed to guide the (un)making of urban circular economies. This compass, drawing on the contributions of Vandana Shiva, Maria Mies, and others, aims to navigate the creation of urban spaces that inclusively account for the *nobodied* and more-than-human world. It calls for a shift in focus from circular cities to circular landscapes, recognizing the limitations of administrative boundaries and advocating for a deeper integration of nature and community in urban development.

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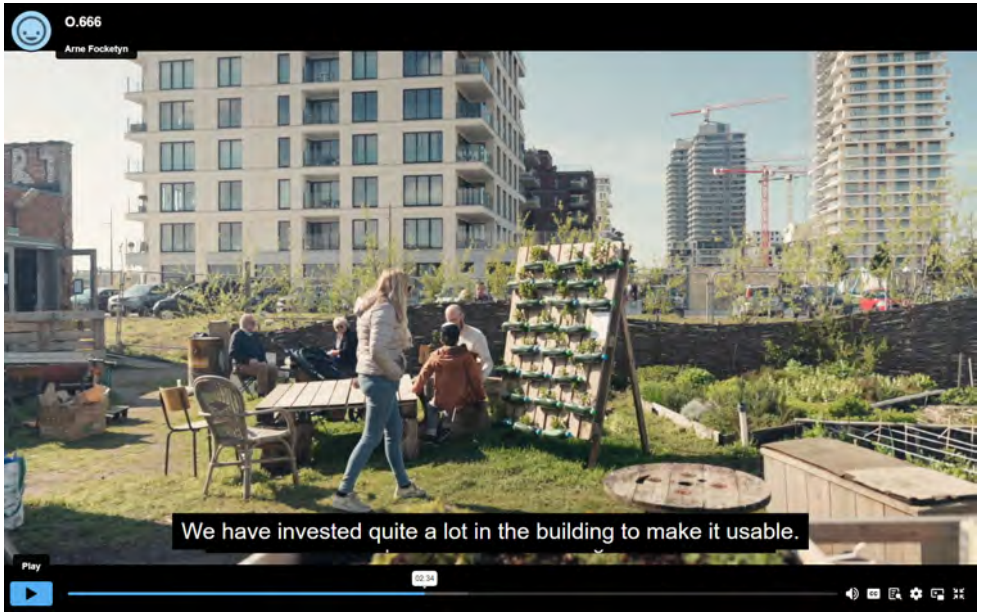

Fig. 1.
Screenshot with a QR code to a 7-minute video recorded on O.666, commissioned by the author/presenter, which serves to illustrate the inclusion of a social dimension in circular place-making in Flanders. Videographer: Arne Focketyn (2023).

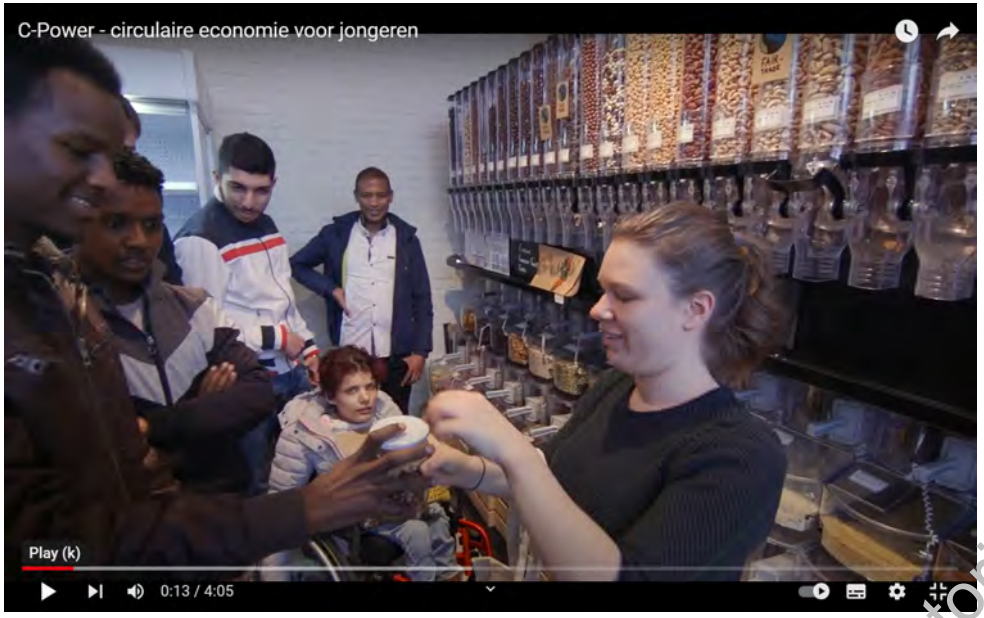

Fig. 2.
Screenshot with a QR code to a 7-minute video recorded on C-Power-project in Leuven and Mechelen. Videographer: Arne Focketyn (2019).

Special Workshop

Public space for inclusive cities: the Biennial of Public Space

Coordinator
Pietro Garau
Marichela Sepe

Urban regeneration area of Ex-fiera

*Carlo Cupiccia, Francesca Sforza**

During the Urban Planning Course of Prof. Marichela Sepe at Sapienza University we have conceived a new, inclusive and sustainable neighbourhood in Rome in the former fair, established in 1959 and dismissed in 2007. The area, of 7.8 hectares, is along Via C. Colombo, one of the biggest roads in Rome. The proposal was carried out as a result of a world café process of participation among all the students concerning 4 tables of discussion: users, open spaces, buildings and mobility. These topics were analysed with respect to: criticality, potential and quality. The main objective was to carry out a masterplan, of 44,360 sq as prescribed in the 2015 Variant of Rome's PRG, characterized by inclusion. To obtain this objective, beyond the world café meeting among us, we have taken into consideration all the need expressed by residents in the 2015 process of participation, organized by the Rome VIII Municipality, and with searches on the internet and social networks. Visits on the place in question, and different kinds of surveys and analyses led us to the construction of our masterplan. Unfortunately, despite the proximity of the area to the university, the residents are mainly elderly, and there are also few families. For this reason we have tried to provide equipment and attractions for all ages throughout the area. We did this because we believe in the value of multigenerationality. It was decided to include social buildings for students, and the recovery of one of the existing warehouses, transforming it into a cultural hub, where various types of cultural activities can be carried out inside. For the surrounding area we thought about creating a sensory garden bordered by a cycle path that makes everything accessible within 15 minutes. We also thought about enhancing the market area, community centre of the area and point of reference for residents, by waterproofing the floor and inserting parking for visitors. The ex-fair area, probably the most degraded area, feature disused sheds of different heights. It was decided to renovate the seven meter high central warehouse, transforming it into a cultural hub. Inside the warehouse it was decided to create a museum that would tell the story of the former fair and the spaces open to the inhabitants of the neighbourhood to carry out various social and cultural activities. The area is characterized by the presence of a reticular structure which it was decided to enhance by moving the neighbourhood market underneath. Due to the proximity of the area to the public universities of Rome, it was decided to create two-storey social buildings for students, in order to integrate with the rest of the urban fabric and a ground floor "pilotis" where various commercial and public activities can be inserted, such as libraries, study spaces, recreational spaces. To make the area accessible to the various inhabitants of the neighbourhood, it was decided to insert underground parking underneath the buildings. We also thought of this to reduce the waterproofed ground, to counteract the heat island effect, and to reduce the ground occupied by cars, one of the problems that afflict cities all over the world. To separate the area from Via Cristoforo Colombo it was decided to insert a green filter in order to protect the area from both atmospheric and acoustic pollution and it was decided to leave only the one where the existing wall that fences off the warehouses is represented murals dedicated to those killed at work. It was decided to plant the lime tree inside the green filter, and this type of tree was chosen for its anti-pollution characteristics and it was decided not to vary the type of tree in order to create a filter that separates the area and that protects the former fair area from Via Cristoforo Colombo. Within the area we also find the Don Mario Picchi park, in a state of abandonment, where we have inserted a sensory garden based on the project of the Boboli sensory garden in Florence. The park also has a children's play area, which has been renovated. To connect the park with the former fair area, it was decided to include a cycle and pedestrian path bordered by trees such as orange groves which are suitable for the paths as they are not deciduous. To enhance the greenery, we thought about planting various trees such as apple trees or poplars and the inclusion of a parklet that can create moments of conviviality and socialization. In accordance with the public space charter, to create a space open to all and liveable, we have inserted water

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paths in particular in the greenery located in front of the social buildings for students. The water paths can offer various activities and it was decided to include commercial activities such as bars and cloisters that allow the management of the greenery and the area. Among the various public activities it can offer, a play area has also been created with activities for adults in order to offer services for every age group. Finally, the area adjacent to the warehouses does not have green paving and to overcome the problem and increase living well-being we decided to permeabilize the floors and in particular focusing on those to be used for parking.

Enhancing social inclusion in small towns: projects and networks

Antonio Bocca, Romina D'Ascanio***

In the last years, inequalities between metropolitan and marginal areas are increasing despite a range of public and private interventions. The concept of proximity, according to global strategies, is generally referred to the urban and metropolitan dimension of services. However, in order to redefine territorial equity and cohesion, the offer of public spaces and services must be considered at different scales, also including areas where the principles of urbanism are more difficult to apply. Italy's small towns, characterized by specificities that cannot be framed by urban-centric approaches, contradict the current rhetoric of "borghi" (hamlets), seen as places fixed in ancient times to be rediscovered through standardized forms of urban tourism.

This contribution aims to highlight the features of social inclusion emerged in the session "What proximity? Networks and connections in small towns" within the last Biennial of Public Space held in Rome in May 2023. The seminar was divided in two parts: the first one on good practices of proximity in small towns; the second dedicated to a round-table discussion and comparison of the critical issues and perspectives of proximity in small towns.

In the seminar, through the analysis of good practices and case studies, some key issues emerged for the urban regeneration and territorial development of small towns. The focus of the seminar mainly covered the following topics:

- Mobility through the analysis of the case study "Secondary railways and fragile territories", edited by a research unit from Roma Tre University. The recovery and re-functionalization of secondary railway networks could allow multi-actor involvement towards territorial regeneration processes, thanks to the use of collaborative governance tools;
- Accessibility to public services analysed through the "POLIS – house of digital services" program by *Poste Italiane*. It aims to reduce the gap with highly urbanized areas and provides multiple services to communities, in particular devoted to the fragile population, as well as contributing to the digital transition. Furthermore, the POLIS project is configured as a significant experience for urban regeneration thanks to the creation of a co-working network spaces;
- Educational poverty in marginal areas, analysed through a research carried out by the Foundation Openpolis. It defined socio-economic-spatial criteria in which demographic trends, the state of services and situations of exclusion and integration of children and families were highlighted;
- Social cooperativism, as evidenced by a research group from the University of Camerino, experimented in the 2016 earthquake areas of central Italy. This experience showed how participation, also through new technologies, can address new community-based regeneration processes in post-disaster areas;
- Digital needs and skills aimed at marketing in rural areas, evidenced by the experience of the "Back to the Rural" project addressed to young people and based on an immersive, itinerant and international learning program on digital innovations;
- Civic crowdfunding and civic engagement, with a focus on *"La Benéfica de Piloña"*, curated by Eurocrowd, highlighted a promising cultural-based urban regeneration process, with the participation of communities and their collective improvement in design skills.

The roundtable highlighted how strengthening neighbourhood networks for improving social cohesion can contribute to the definition of shared and collaborative visions of territorial framework.

Furthermore, the strengthening of policies, the definition of a relevant spatial dimension, through complementary specializations among municipalities, should be aimed at

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building institutional and spontaneous alliances for a unified vision of sharing services.

The implementation of cooperative and multidisciplinary networks, based on a cultural intelligence approach, can contribute to the systematization of research and projects. At the same time, the public sector should support an idea of responsible welfare that makes the community the protagonist of regeneration processes.

Thus, it is useful to consider a spatial and temporal proximity that intervenes in marginal areas to setup conditions of attractiveness and inclusiveness.

The seminar brought out contradictions encountered in our country, but also innovative and proactive forms of collaboration between stakeholders and municipalities aimed at the integration of material and immaterial interventions. The seminar also investigated which processes and projects in small towns have led to strengthening inclusive processes through proximity networks.

Reporting on the Multiethnic City: Notes for a 2025 Report on Public space

*Manuela Alessi**, Pietro Garau***

All European cities host a significant percentage of new citizens from other countries and cultures. This is often described with a term that is both a reality and an aspiration: the "multiethnic city". It is in public spaces where inclusiveness can be pursued by offering opportunities for encounter and interaction. These opportunities and related practices need to be documented and encouraged.

Encounter and interaction can be interpreted in various ways. In its most elementary form, encounter and interaction take place when urban residents of a given nationality or ethnic group gather regularly in a public space, usually a park, to spend a few hours together. In this case, it is the city itself that interacts with these groups by making available its open spaces. This is already a significant fact, because it highlights the value of public space as an "includer" of important cultural values and customs.

Public space can also act as an "intercultural agent" as it offers more established residents an opportunity to come into contact with people of different cultures and vice-versa. This is not automatic nor easy. But it already happens in many schools and it can be replicated everywhere in even freer environments – piazzas, streets, shops, green spaces, playgrounds where people share moments of amusement and relaxation.

Finally, public spaces are also the *loci* of a different kind of inclusiveness: coming together for a common cause, as it happens in the case of pacific public gatherings. On such occasions, people of different cultures interact not just to define their mutual relationship and establish social contact, but to express their common support for a "meta-ethnic cause"- be it violence against women, international peace, or simply a common demand for more green spaces. This is when co-existence assumes its full dimension of co-citizenship. In a way, this dimension transcends inclusiveness, as there it envisages neither "includer" nor "included".

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Of course, these processes are not of a linear nature. There are no infallible paths of gradual evolution from tolerance to "meta-ethnic citizenship" through acceptance and interaction. Even the most common instances of "mono-ethnic use" of public space can give rise to quasi-racist reactions against perceived monopolizations of open public places. And many urban residents can view multi-ethnicity in the city as a disturbing reality rather than an opportunity for expanding one's horizons. This is why progress towards a truly democratic multi-ethnic city needs patient analysis in addition to consoling success stories.

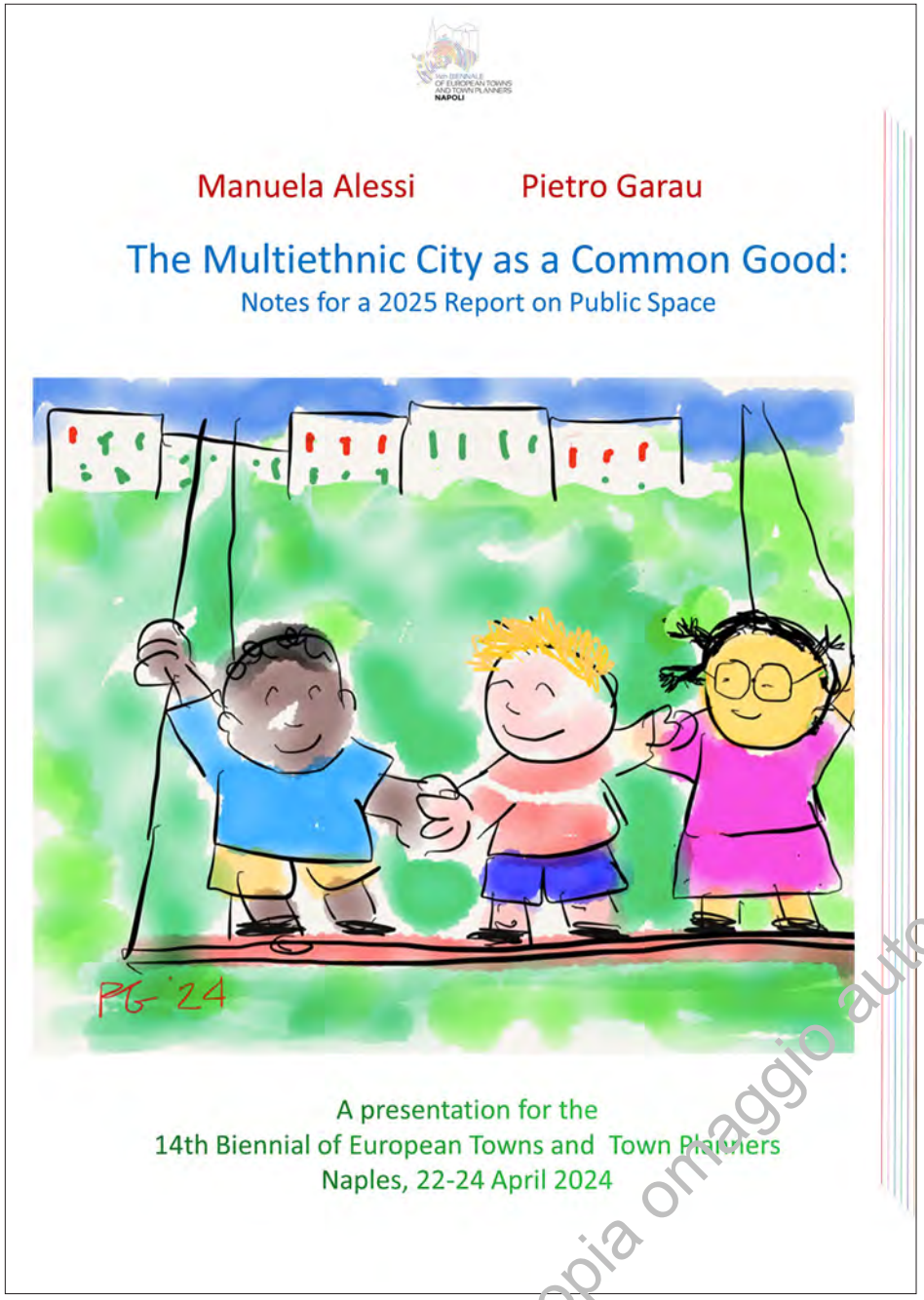
The importance of public space in cities is affirmed in the UN's Agenda 2030 with its target of providing universal access to safe, inclusive and accessible green and public spaces. Previously, the inclusive virtues of public space were stressed in the Charter of Public Space with its aim of "serving all those who believe in the city and in its extraordinary ability for hospitality, solidarity, conviviality and sharing; in its inimitable virtue in encouraging social interaction, encounter, togetherness, freedom and democracy; and in its calling for giving life to these values through public space……public space must be the place where citizenship rights are guaranteed and differences are respected and appreciated….public spaces are a key element of individual and social well-being, the places of a community's collective life, expressions of the diversity of their common natural and cultural richness and a foundation of their identity…."

The Biennial of Public Space has been recording significant experiences of urban multiethnicity in Italy and elsewhere. So far, this activity has focused on available exemplary projects and good practices. However, as the internationally disseminated 2011 "Charter of Public Space" underlines, progress can draw strength not only from successes but also from the analysis of constraints encountered by public space policies and public space management, particularly if confronted the sweeping Agenda 2030 target of "by 2030, provide universal access to safe, inclusive and accessible, green and

public spaces, particularly for women and children, older persons and persons with disabilities".

Currently, the feasibility is being considered of a "Biennial Report on Public Space" aimed at examining conditions and prospects, problems and outcomes, unresolved issues and encouraging public-space experiences in representative cities in Europe, Europe and in the rest of the world.

One of the report's central themes will be the role of public space in reducing inequalities and promoting inclusive processes. However, when we speak of inequalities we refer primarily to least favoured citizens, who are in large part low-income foreigners of recent immigration. Therefore, an important focus will be how to report meaningfully on the promises, prospects and still unresolved issues of the "multiethnic city".



Inclusive decision-making processes in public policies

*Carmen Giannino**

In the context of public policies - from environmental to social policies - the contribution of the various actors in a territory, who represent the needs of the community, should be encouraged. The choices of central and local administrations must be "inclusive", through the participation of citizens. Participation is the relationship of civil society with institutions. Designing the city means working so that the various actors involved identify and define together solutions to complex problems in order to reduce administrative burdens, delays and conflicts in the implementation of policies and in the management of public services.

Citizen participation in the strategies of the European Union

The Treaty of Lisbon (December 2009) places the citizen at the center of the European Union and its institutions, so that he can participate in the development of the EU.

Some important principles are recognized in the Treaty: the principle of proximity, according to which decisions must be taken as closely as possible to the citizens (Article 10) and the principle of the involvement of citizens and representative associations (Article 11 of the TEU).

A right of citizens' initiative is therefore established for the first time: at least one million European citizens can invite the Commission to present a proposal relating to a specific matter. This provision reflects the EU's desire to involve citizens in European projects.

Democratic participation in the process of defining cohesion policies is one of the elements of institutional capacity, defined by the Barca Report of 2009, as a condition for consolidating the economic and social cohesion of the European Union by correcting imbalances between regions.

The involvement of citizens and all interested parties is then taken up in the Community Regulations, with particular reference to participatory local development processes and initiatives.

All public institutions promote citizen participation, but what are the results?

What is the impact of participation on public decisions?

The question is decisive. Participatory practices have been promoted by European programs (Urban and Leader, in the first place) and have been included in Italian legislation, especially in the field of urban renewal, social policies and interventions for local development.

Disseminate participatory practices and participation tools promoted by the public administration through informal, flexible and adaptable operating methods, both in planning and management terms: Local Agenda 21, Participatory Urban Planning Workshops, Participatory Budgets, Discussion Roundtables.

Innovative examples are the "Collaboration Agreements" between the public and private sectors (see Regulation for the care and regeneration of the urban common goods of Bologna, taken as a reference by many other Municipalities) in which the Administration entrusts the management, care and maintenance of public spaces; or the "Participation Charter" or the "Public Space Charter" of INU.

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14th BIENNALE OF EUROPEAN TOWNS AND TOWN PLANNERS NAPOLI

Inclusive decision-making processes in public policies

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Creating our futures ECTP-CEU European Council of Spatial Planners Conseil européen des urbanistes

INU Istituto Nazionale di Urbanistica

22-24 APRIL 2024

How much public space has my city got to offer?

*Luciano G. Alfaya, Patricia Muniz-Nunez**

Truly understanding the places we live in, and especially those that continue to prioritise people, is one of the essential pieces of information for assessing their inclusiveness. Pontevedra, a province in north-western Spain on the border with Portugal, has almost one million inhabitants, with only two municipalities exceeding a population of more than 50,000 people: Vigo (293,652) and Pontevedra (83,893). The remaining 566,700 inhabitants are spread across 59 administrative units, with 40% residing in urban areas (as defined in the planning regulations). Depending on the individual district, this proportion varies. Residents living in boroughs with less than 10,000 inhabitants account for around 32% of the population, 56% living in districts with between 10,000 and 20,000 inhabitants, and almost 65% in municipalities with more than 20,000 inhabitants. It is crucial for this study to define what is considered 'urban area' and what 'public space'. For the former, apart from density and services, 'urban' is used as a planning category, in accordance with current regulations. For the latter, the characterisation of public space has been approached from a dimensional, perceptual, and morphological perspective. But essentially, it represents the inverse of private space as well as a field for experimentation, where complexity can facilitate inclusion. To understand this complexity, it is necessary to identify the city as a social entity that goes beyond its built form. Addressing this identity through successive layers and from different dimensions of reality (Morin, 2009) allows us to understand what is 'urban' differently depending on who is interacting (Sim, 2019). With the passage of time and the technological advances, these relationships and complexities no longer only apply to cities. As previously discussed, what used to be defined as 'urban' is increasingly expanding today, and particularly so in the north-west of the Iberian Peninsula. The city ceased to be "centripetal, and turned centrifugal" (Domingues, 2009). As for public space, its characteristics are an indicator for the quality of urban life. Allan Jacobs (1995) studied various cities by analysing the quality of their streets, based on the assumption that their physical characteristics condition the use and appropriation of space by their users, thereby promoting stronger social relationships. As a result, the analysis of public space, especially in small municipalities, involves a multitude of viewpoints as to the intervention's aims and intentions; however, foremost to this study is the space for walking. The practice of walking involves a hybridisation among all forms of life, such that landscapes coexist in a space in movement. Understanding the dimensions of public space is therefore crucial for comprehending cities. Pavements, as a place for negotiation (Loukaitou-Sideris, 2009), are spaces that facilitate encounters, segregate, ensure safety, accessibility, lighting, and even environmental quality. In contemporary cities, streets, and particularly pavements, when wide enough, promote social vitality (Rueda, 2012). The methodology of this research is based on creating its own cartography, using cadastral data, in order to take account of a unique, common and official source for the whole territory. It is therefore no longer necessary to map out the public space, as it is delimited as a void between the private plots of land. In other words, public space is the inverse of cadastral mapping, redrawn and verified through orthophotography and fieldwork. Consequently, considering urban floorspace as the sum of public surface and private surface, leads to the conclusion that the public surface by itself is the union of the room for vehicles and the one for people. To elaborate this further, the space for cars consists of both streets and parking areas, as well as pavements that are less than five metres wide (and which therefore do not allow for coexistent passing and staying). The main results of this study provide an insight into the relationship between public areas and urban areas. Overall, space available to residents in urban areas varies significantly across the province and in this case correlates directly with the size of the respective administrative divisions. Whilst people living in municipalities with less than 5,000 inhabitants average 132 m^2 of public space each, those living in cities with more than 20,000 inhabitants barely reach 31 m^2. In the districts with 5,000 to 20,000 people, public space available per person is around 70 m^2. It is worth noting that, in a territory where 3 m^2 out of every 4 m^2 of public surface are dedicated to private vehicles, it is possible to confirm a relationship between road surfaces and urban area, which should be considered for future research. There is a linear regression between the two surfaces. The value of r^2 is very close to 1, which demonstrates a direct relationship between them, hence, knowing one of them, it is possible to deduce the other. As a result, it is important to reflect on the need for a paradigm shift and the limited success of isolated actions.

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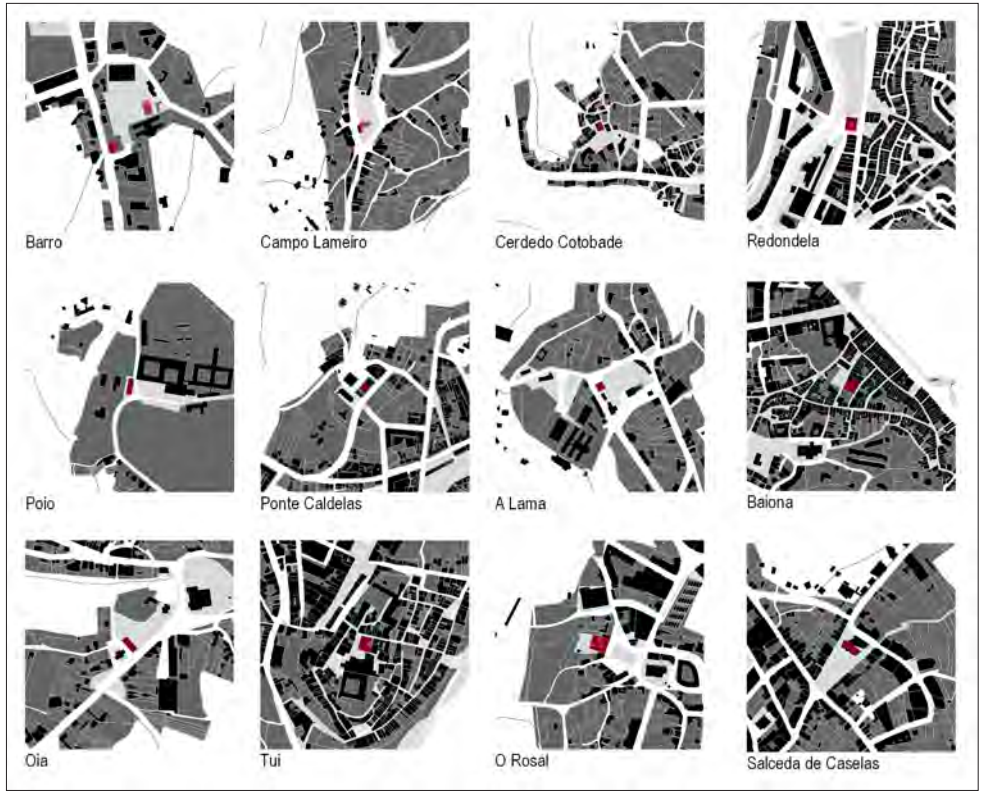

Fig. 1.
Urban voids in 12 different villages (city hall in red)

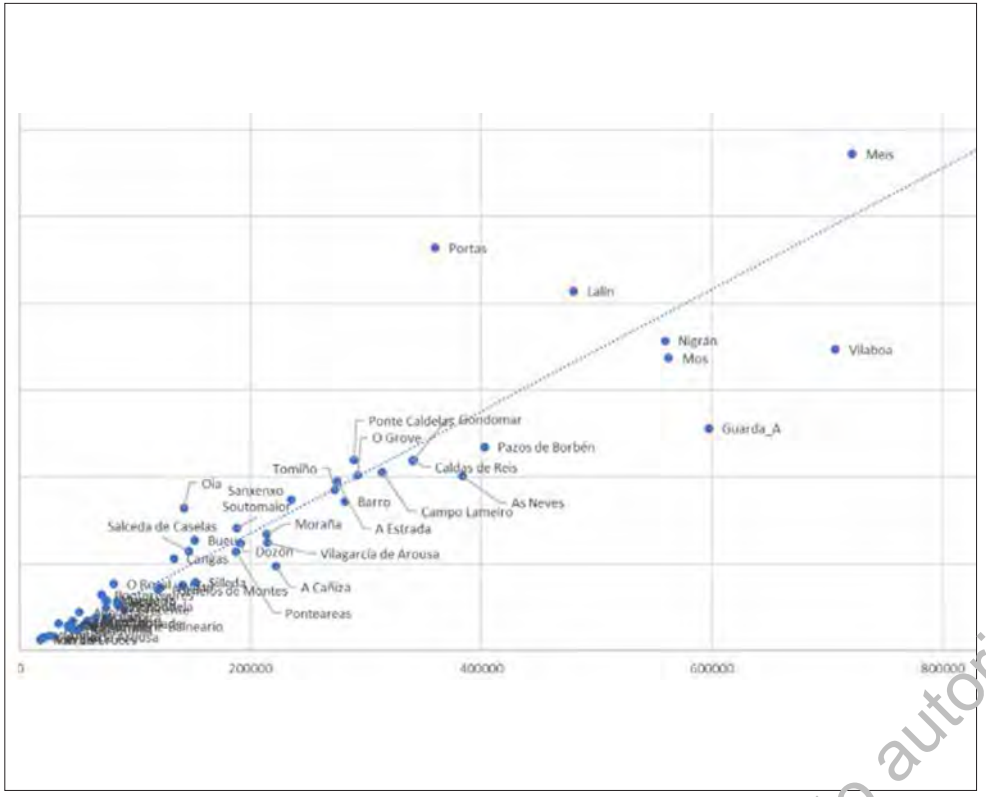

Fig. 2.
Linear regression between road surfaces and urban areas.

Public space in the "bipolar" urban entities of coastal towns

*Authors Cristian Gori**

Abstract

The study and implementation of some master plans, promoted and carried out on the Romagna coast, have become an opportunity to analyze the urban entity of coastal towns. It is a geographical area, featured by a predominantly touristic economic model, with a remarkable difference between summer and winter life which causes notable urban and social imbalance.

The offered solutions are focused on the regeneration of the public space. We are certain that the public space can be a primary element to restore a balance between the urban planning and the society. The new waterfronts, urban parks, the natural shopping center and the new fish market represent some of the main interventions. We are aware that interacting with the "bipolar" urban entities such as coastal towns, unfortunately, in many cases does not allow us to use the same paradigms used for cities with a constant economy and demographics, both in terms of analysis and proposals.

However, it was found that in the projects (seafront and parks) developed with a lot of effort and detailed study of the citizens' needs, the created spots have become frequently visited places. While those made in an "aristocratic" way and with lack of attention towards the local peculiarities, the outcome is not so brilliant. The best results were achieved in those interventions which focused on the urban safety and the concept of proximity as a primary component for the social inclusiveness.

The study and implementation of some master plans, promoted and carried out on the Romagna coast, have become an opportunity to make reflections on the urban space and the urban entity of coastal towns. They are towns that make up the geographical area of about 110 km in the Upper Adriatic region, giving origin to a territorial system based on the economic model of predominantly seasonal touristic beach activities. It is the economic model that has determined the system of settlement and lifestyle, the characteristics of which strongly influence urban choices and solutions. It is a territorial connotation, also found in other coastal geographical areas, both Italian and European. If the city is by definition a social space determined by systems of relationships, the public space represents the emblem of the multiple expressiveness of the life of its citizens. The economic nature has become the key player in structuring the coastal territory, both in the settlement morphology and in the lifestyle of the citizens. Two synergic aspects, which in addition to mutual influence on each other, connote the peculiar character of these coastal towns, where the difference between summer and winter life is a source of a notable urban and social imbalance. The main difficulty in many cases is that of understanding how to act in the projects where the territorial context is highly effective, productive and functional in the summer, while being called to act in the remaining period of the year. The solutions proposed to mitigate these internal imbalance have focused on the regeneration of the main decadent public space. We are sure that the public space can be the primary element to restore a balance between the urban planning and the society, trying to project the ideal bond between urbis and civitas into the public space. The developed master plans mainly affected the town of Bellaria Igea Marina: the waterfront of the seaside and the riverside, some urban parks, the natural shopping center and the fish market. Even though the public space types are different, it was still possible to report on the results we obtained. The new seaside waterfront together with the upgraded beach establishments, is certainly the most successful result. The creation of the new walking route brought a functional and aesthetic improvement of both the public space and the private areas. The urban walkway connecting the beach and the hotel area is a significant example of a public-private urban operation. A coastal stretch of almost 2 km, which made it possible to extend and involve a part of

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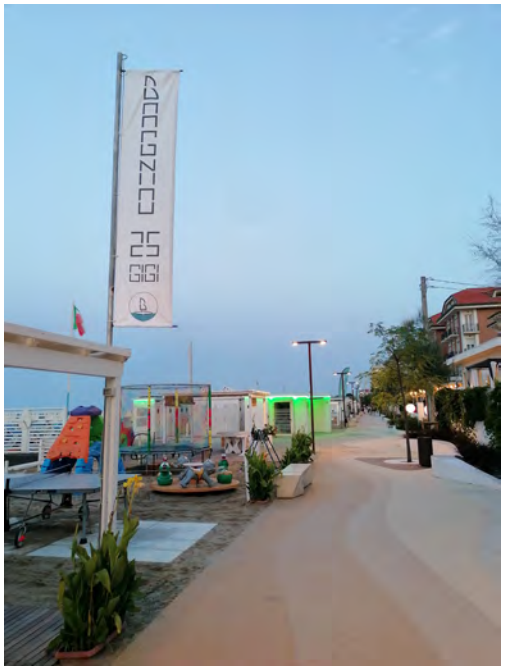
Fig. 1.
Foto lungomare Carrà Bellaria I.M..Fonte Coworking Studio

Fig. 2.
Foto piazza Fellini Bellaria I.M..Fonte Coworking Studio



the town previously excluded from the urban fabric and from citizens' use. There were equally significant projects that involved the redevelopment of two urban parks (Parco del Gelso and Parco Giovanni Paolo II), through the introduction of new street furniture, play grounds and video surveillance systems. Another enhancement of the green social areas. Other important results of such actions concern the creation of two squares next to the natural shopping centre. It is the square in front of the main church, a sort of a "larger churchyard", and the one in front of the library. These places are at the disposal of the citizens for various types of use. However, the results relating to the redevelopment of the riverfront and the construction of the new fish market were not so brilliant. In the first case the actions were only focused on the street furnishing, lacking a connection to the urban context. While the new fish market was oversized for the town dimensions. A disproportionate space, unable to be a success as a place and consequently to renew the surrounding area. Years after the implementation of the listed interventions, it was found that the most satisfactory results were obtained in those projects based on two fundamental components. Focusing on the urban safety of places and involving the economic categories and citizens in the planning phase. Starting a collaborative discussion in particular, at times even in a painful way, enabled the cultivation of awareness (both in citizens and administrators) of the needs, expectations and feasible possibilities of implementation. Unfortunately, in some projects the participation process was ignored and the intervention proved to be incapable of effective improvements to the urban context. From these planning experience we can therefore grasp three significant aspects, particularly useful also for the complexity of the "bipolar" urban entities such as coastal towns. 1) The importance of attention to the public space as a central element of the city life. 2) The more the public space is adapted to the lifestyle of the citizens, the more vital the city becomes. 3) The importance of participation discussion with the citizens. In other words, inclusiveness, the objective to be only achieved if it becomes a constructive component yet in the designing phase.

Inclusive public spaces former ex-fiera of Rome

*Alice Potenza, Paola Moricca, Flavia Armenia, Antonio D'Ambrosio**

Abstract

During Prof. Sepe's Urban Planning Course at Sapienza University, a new inclusive neighborhood in Rome was envisioned within the former fair. Spanning 7.8 hectares along Via C. Colombo, established in 1959, the former fair is a vibrant area, well-connected and frequented by people of all ages. The neighbourhood offers many services for all age groups, such as the marketplace, mostly frequented by the older people, or the many sports facilities, which mainly attract the younger people. All around the area we can also notice many offices. Even if there is a significant affluence by people of different groups ages, is notable the lack of public spaces which encourage the interaction among different groups, along with the absence of a cultural hub connecting with nearby universities. The World Café process facilitated discussions on public space aspects, focusing on four scopes: users, mobility, open spaces, and buildings, revealing criticality and potentials. For example, we noticed that despite challenges like the presence of an impenetrable wall (criticality of buildings), the bustling nature of the neighborhood, offers an opportunity to create a people-oriented space conducive to change (potential of users).The main object was to develop a masterplan covering 44,360 square meters as prescribed in the 2015 Variant of Rome's PRG characterized by inclusion. In order to achieve this goal, in addition to the word café meeting among us, we took into consideration all the needs expressed by residents in the participatory process of 2015 organized by the Rome VIII Municipality. Visits to the site under consideration and various types of surveys and analyses led us to the construction of our masterplan.The first type of analysis conducted during the site visit was the sensorial analysis; this is a concept that can be related to the field of sensory perception and cognitive psychology. It refers to a person's ability to correctly interpret sensory stimuli from the surrounding environment. This is important because understanding how people perceive and interpret sensory stimuli, can help design environments, products and communicative messages more effectively and tailored to individuals' needs. This type of survey can be supplemented with sketches and photos of the area under.The next phase, that we undertake for the study of the area, is the questionnaire that we administered to visitors of the area with the aim of mapping out an idea of the place perceived by those who are not involved in the study and are not professionals in the field, but perceive the sites only as users, at different levels: residents, passers-by, tourists. The questionnaire consists of questions regarding the area, concerning the elements that strike the most, those that evoke a sensation, and more specific questions.Finally, we derived various territorial parameters, which play a fundamental role in the regulation and management of urban development. The parameters we focused on the most are: total area, buildable area, and area to be demolished.

Our project is driven by the intention to restore a sense of belonging among residents, a sentiment that seems to have faded over the years. For this reason, we have chosen to reintroduce the same installation multiple times within the designated area: Okinawa B'bob, an artwork by Toshiko MacAdam. We believe that this installation effectively engages a significant portion of residents across different age groups, offering a playful experience for the younger ones and serving as a social gathering point for the older demographic, where contemporary art can be admired.Our project encompasses not only a diverse array of physical activities, including a skating rink, skate park, open workout space, indoor pool, sports facilities, and climbing walls but also serves as a hub for socialization and the cultivation of individual passions. The structures are specifically designed for young individuals seeking integration and genuine learning stimuli. Consequently, we have decided to create a multifunctional centre and cultural space where all residents have the opportunity to interact, share experiences, and nurture their interests. In order to increase the cultural aim of the residents, we have decided to insert

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a building containing a library and an open-air theatre on the terrace.A relevant aspect of our project is the deliberate choice to commemorate the former Fiera di Roma by retaining sections of the perimeter wall and transforming them into a source of strength; this includes the involvement of young mural artists, contributing to the rich cultural tapestry. Another way to commemorate the initial state of the area is by reproposing the reticular structure and transform it in a space where teenagers can hang out during night-time thanks to the light installations above the reticular structure. Additionally, the midweek market initiative, already in place, has been extended to operate throughout the entire week in our project. Lastly, we have decided to expand and enhance the urban context of the green space. This decision was made with the careful selection of trees characterized by high resistance to all seasons and a significant capacity to absorb fine particles and pollutants.The area in question is divided into various spaces, each serving distinct functions, and these spaces are interconnected through an inclusive pathway. This pathway has been designed with the aim of ensuring optimal accessibility for various activities, with a short walking time.

Proximity and Inclusive Public Space

*Marichela Sepe**

The proximity city is a city capable of offering all its inhabitants everything they need to live, work and have fun, reachable on foot or by bicycle in no more than 15-20 minutes. The starting point of the 15-minute city model, created by Carlos Moreno (2020), is that it needs to move from urban planning to urban life planning. This can be achieved by creating a neighborhood city in a compact area accessible to all and where people can live, work, take care, have fun and educate themselves. To this end, it is necessary to create a new urban planning with other rhythms of life and ways of using urban space to access the main functions of the city; it's about transforming monofunctional urban space into a polycentric, connected city with public spaces accessible to all. In this way, active mobility on foot or by bicycle can be promoted, reducing the use of the car and long journeys by public transport. All the actors of urban life should be involved in this transformation since for its realization it is necessary to connect the demand of the inhabitants with the supply through various actions: creating an adequate mix of social, economic and cultural functions, increasing public meeting spaces, transforming streets into free circulation spaces for walking or cycling (Figgs 1-2).

Accordingly, the proposed Charter of proximity for public space, carried out in the framework of the Prin 2020 SUMMA # 20209F3A37, was presented at the 6° Biennial of Public Space titled Proximity and public spaces, that was held in Rome in May 2023. Objectives of the following Charter are to constitute a flexible, inclusive and updatable tool and become a sort of guideline for all interested to verify or realize proximity in public space. These objectives are important as cities change always more rapidly, and the 25 principles Charter has to be updatable accordingly. Also, the flexibility is important because not all places are the same and the principles must be adaptable to different peculiarities in an optic of inclusion.

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The Charter:

The proximity city is a city where the main services can be reached in no more than 20 minutes on foot or by bicycle.

1) In order to create the city of proximity, places of identity continuity into which to divide it must be identified, depending on the size and organization of the territory.
2) Urban continuity must be identified through a participatory process involving the main stakeholders of that specific place.
3) The organization of proximity places must be entrusted to an organization that is the contact person for management and monitoring.
4) To facilitate the achievement of services in no more than 20 minutes, it is necessary to create or improve pleasant, attractive, healthy and livable pedestrian and cycle paths.
5) To allow everyone - the elderly, children, people with disabilities - to reach the services in no more than 20 minutes, the use of electric public transport must be encouraged.
6) To create proximity, it is necessary to create communities, i.e. actions, policies, projects that favor the aggregation of people
7) Proximity must be understood from a perspective of temporal and spatial flexibility, i.e. adaptability to the peculiarities of places and changing needs and users. Proximity services concern:
8) commercial services: food shops with all categories of food, retail shops with all the main goods needed for daily living, local markets, repair and cleaning shops (laundries, tire changes, etc.)
9) Health services: clinics, polyclinics, clinics, for blood tests, blood pressure measurement, medications, vaccinations, sociological consultation, and everything needed for prevention and satisfaction of the main social and health needs
10) Educational services: nursery schools and schools of all levels
11) Cultural services: neighborhood libraries, pop-up reading points, small theatres, exhibition galleries
12) Leisure services: attractive, livable public spaces, with activities for all age groups and abilities
13) Sports services: gyms, outdoor sports equipment, playgrounds, spaces for inclusive physical activity
14) Catering services: restaurants, bars, catering places
15) Leisure services for pets: off-leash and/or play spaces dedicated to dogs
16) Care and well-being services: shops and/or centers for beauty and personal care
17) Digital services: digital coverage of the area

18) Work services: co-working spaces
19) Separate waste collection services: dedicated areas that are livable and accessible
20) Worship and religion services: churches, oratories, places of worship.
21) The services should be located in existing buildings with a view of regeneration and multipurpose use of the spaces
22) The proximity of services must be combined with the proximity of greenery and open spaces
23) Places of identity continuity should have signs and billboards, including digital ones, indicating services, activities and points of interest to be reached within 15-20 minutes
24) Proximity is an important factor for the valorisation of places and cultural resources from an inter-scalar and multi-scalar network perspective
25) The new polarities created by proximity constitute new territorial models that will contribute at creating new urban identities capable of adequately comparing with pre-existing ones.

Acknowledgments

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Proximity and Inclusive Public Space
Marichela Sepe
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The proposed Charter of proximity for public space, carried out in the framework of the Prin 2020 SUMMA #20209F3A37, was presented at the 6° Biennial of Public Space titled Proximity and public spaces, that was held in Rome in May 2023.
Objectives of the following Charter are to constitute a flexible, inclusive and updatable tool and become a sort of guideline for all interested to verify or realize proximity in public space. These objectives are important as cities change always more rapidly, and the 25 principles Charter has to be updatable accordingly. Also, the flexibility is important because not all places are the same and the principles must be adaptable to different peculiarities in an optic of inclusion. From this point of view, new types of places with different aggregations of services can arise in order to favor community and sustainability.

The Charter of Proximity

The proximity city is a city in which the main services can be reached in no more than 20 minutes on foot or by bicycle

1) In order to create the city of proximity, places of identity continuity into which to divide it must be identified, depending on the size and organization of the territory.
2) Urban continuity must be identified through a participatory process involving the main stakeholders of that specific place.
3) The organization of proximity places must be entrusted to an organization that is the contact person for management and monitoring.
4) To facilitate the achievement of services in no more than 20 minutes, it is necessary to create or improve pleasant, attractive, healthy and livable pedestrian and cycle paths.
5) To allow everyone - the elderly, children, people with disabilities - to reach the services in no more than 20 minutes, the use of electric public transport must be encouraged.
6) To create proximity, it is necessary to create communities, i.e. actions, policies, projects that favor the aggregation of people
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10) educational services: nursery schools and schools of all levels
11) cultural services: neighborhood libraries, pop-up reading points, small theatres, exhibition galleries
12) leisure services: attractive, livable public spaces, with activities for all age groups and abilities
13) sports services: gyms, outdoor sports equipment, playgrounds, spaces for inclusive physical activity
14) catering services: restaurants, bars, catering places
15) leisure services for pets: off-leash and/or play spaces dedicated to dogs
16) care and well-being services: shops and/or centers for beauty and personal care
17) digital services: digital coverage of the area
18) work services: co-working spaces
19) separate waste collection services: dedicated areas that are livable and accessible
20) worship and religion services: churches, oratories, places of worship.
21) The services should be located in existing buildings with a view to regeneration and multipurpose use of the spaces
22) The proximity of services must be combined with the proximity of greenery and open spaces
23) Places of identity continuity should have signs and billboards, including digital ones, indicating services, activities and points of interest to be reached within 15-20 minutes
24) Proximity is an important factor for the valorisation of places and cultural resources from an inter-scalar and multi-scalar network perspective
25) The new polarities created by proximity constitute new territorial models that will contribute at creating new urban identities capable of adequately comparing with pre-existing ones.

Barcellona:
Sant Antoni and Poblenou superillas

Special Workshop

Universal accessibility and university education, the knowledge network

Coordinator
Barbara Chiarelli

Safety and inclusion of urban public spaces

Federica Cicalese, Michele Grimaldi**, Isidoro Fasolino****

The growing demand for security put forward by citizens calls for reflection on the methods adopted to deal with this emergency and on the possible aspects that directly or indirectly may have repercussions in this regard. What makes the city unsafe is not only the actual risk of being the victim of predatory crimes, but also the perception of insecurity felt in certain spaces and related to urban decay and social unease. The issue of urban security is a prerequisite for the creation of sustainable cities and communities as confirmed by the Sustainable Development Goals (SDGs) of the 2030 Agenda, in particular SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable. Urban planning can ensure that spaces dedicated to the community and shared use are transformed into as many common goods, thus satisfying the legitimate aspirations of citizens to improve the quality of life, for which safety is important. The demand for security is thus linked to a plurality of factors that influence and alter the perception of urban spaces, making them appear unsafe.

Unsafety, real or perceived, acts as an obstacle to the management and use of public spaces, limiting everyone's freedom and negatively affecting the quality of settlements. Determinants in this sense are the physical elements of the urban environment, related to the criteria according to which cities and spaces are planned, designed, built and managed.

Public spaces, therefore, play a central role in the quality of life, influencing the physical, mental and social well-being of the people who inhabit them on a daily basis.

Safety/unsafety in public space depends on several factors: *accessibility* - visibility, integration with the context; *form* - size, pleasantness, care of the space; *functions* - vitality vs. decay, lack, suspension; *ownership* - public, semi-public, semi-private; *users* - different and responsible figures.

The decay, suspension or lack of functions involving the presence of people and animation make some public spaces convey real feelings of fear. Certain urban spaces are, moreover, particularly unsuitable for vulnerable individuals who lack sufficient vigilance (children, mentally disabled) or physical fitness (elderly, physically disabled), or who may be subject to sexual violence (women, children). There emerges, therefore, the need to design and/or redesign urban spaces, streets and facilities that are usable, comfortable but also safe, in which everyone can feel included.

The problem of urban crime and the feeling of insecurity is closely linked to the spatial and functional organisation of the city, with consequences on planning and design criteria as well as its management and maintenance. It must be tackled systematically, using an integrated approach in which socio-economic actions go hand in hand with physical and functional interventions on the built environment, in accordance with crime prevention strategies.

The pursuit of safe conditions, including from the various forms of threat and crime, requires the integration of the different existing approaches in order to achieve effective and lasting results. Specific consideration must be made in relation to the safety conditions of public spaces, with particular reference to urban green areas. More specifically to greening interventions, previous empirical evidence has found that cleaning and greening of empty lots is associated with a reduction in crime.

In order to make an area safe, it is essential to make explicit the purpose for which each space is designed, and citizens must be clear about this. Only in this way will they be able to behave appropriately and/or in relation to the function that that space performs, which may also be explicitly multifunctional.

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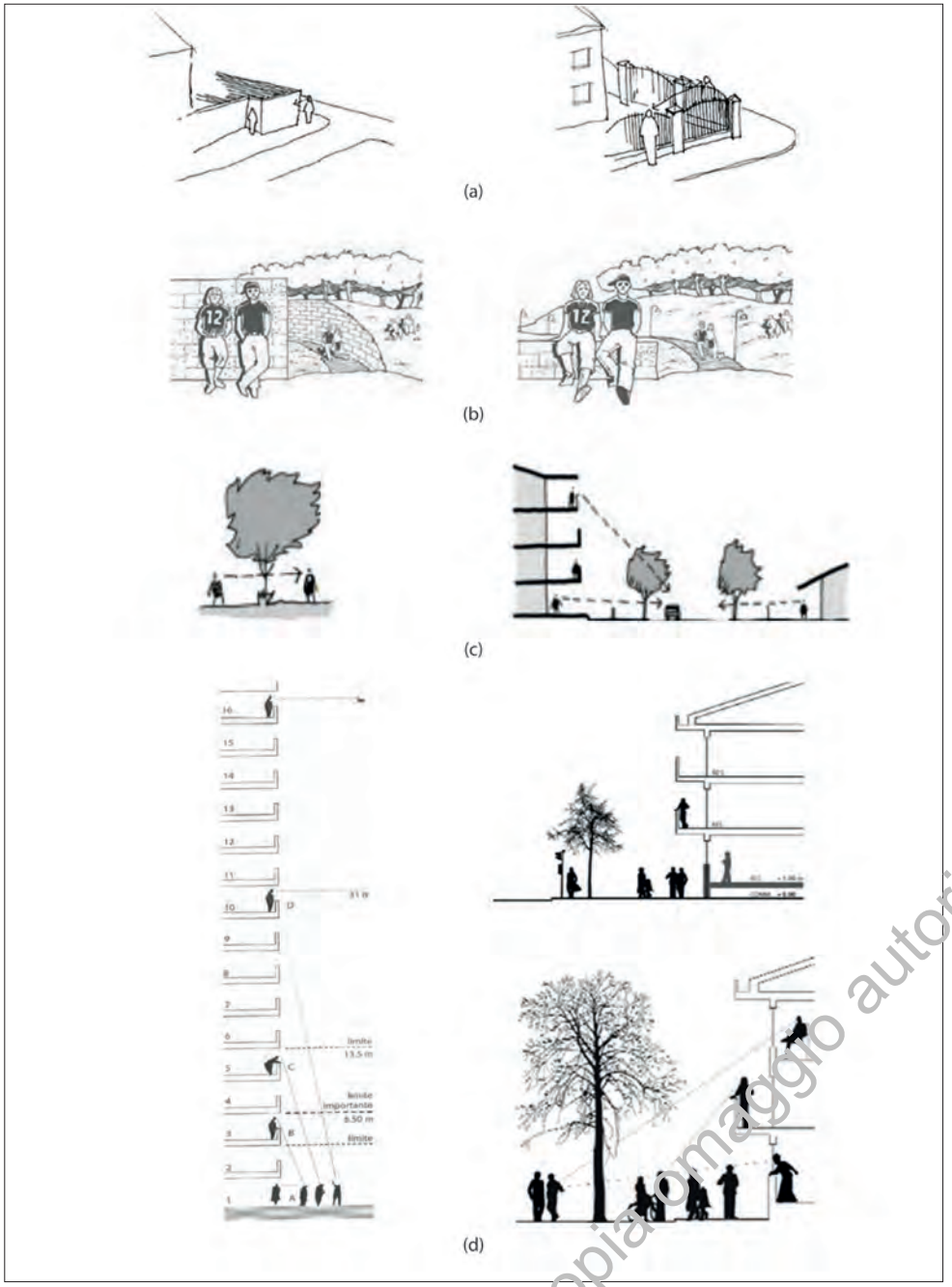

Fig. 1.
Physical aspects of urban safety: (a) fences; (b) visual barriers; (c) urban greenery; (d) overlooking public places, streets and building heights

Among the aspects related to the physical conformation of urban space, the focus is on accessibility, understood in topological terms, i.e. the ease with which a space can be reached by others. Conditions of accessibility define the greater or lesser vulnerability of spaces to the extent that they allow, or hinder, the possibilities of spontaneous surveillance of the territory, by residents or outsiders. This is influenced by the convex and axial organisation of spaces in an urban area and its interface with buildings.

The objective of this EU-funded project (Next Generation EU) is that the results of this research will lead to the definition of models that can be implemented in policies, plans and regulations. On the basis of the research carried out so far, the competitive call for the above-mentioned research project was won, representing the starting point for the achievement of the set objectives. This work is, in fact, an opportunity for a more careful reflection on the topic in order to identify the key aspects that allow Urban Planning to be oriented towards the environmental prevention of crime risk and towards the definition of specific actions, possibly to be contemplated in the municipal urban plan, for the adaptation, over time, of urban spaces to security criteria.

The accessibility of places of cultural interest

The research activities of Florence Accessibility Lab (FAL) at the University of Florence

Luca Marzi, Luigi Vessella***

The activities related to environmental design issues focused on the accessibility and usability of the Department of Architecture, DIDA, at the University of Florence, are characterized by a series of actions involving various scientific disciplines such as design, urban planning, landscape design, restoration, and architectural technology. Within this context, the Interdepartmental Research Unit, Florence Accessibility Lab (FAL), has been developed. The aim of FAL is to define, consolidate, and promote a new culture that sees habitat accessibility as a collective resource for autonomy and social inclusion. Among the various research activities of FAL, a specific line of study has been developed concerning the definition of Accessibility Plans (AP) tailored to cultural heritage sites. These are places where the process of improving accessibility must be approached with critical thinking, imagination, and inventiveness as well as avoiding the use of standardized solutions or compliance with regulations as an excuse. Following this model, from 2020 to the present, the FAL research unit has been conducting specific studies such as: the AP of the Monumental Complex of the Opera of Santa Maria del Fiore; the AP of the Boboli Gardens and the Royal Stables; and recently, the AP of the Uffizi Galleries and Palazzo Pitti.

The research conducted by FAL on improving accessibility conditions in cultural heritage sites has allowed the development and application of hypotheses regarding the principles, methodologies, and operational tools necessary when intervening on architectural heritage. The complexity inherent in the field of accessibility is heightened when dealing with architectural heritage of cultural interest, as all elements contributing to accessibility improvement must be weighed and measured against aspects related to conservation, protection, and safeguarding of heritage at different scales. Constraint increases, and the project's intervention possibilities diminish which potentially result in negative effects on site improvement, inertia, and difficulty in devising suitable solutions as well as even producing poor and stigmatizing results. To work on cultural heritage, it's necessary to reframe and recalibrate certain concepts that are now widespread among those who study and work in the field of accessibility. One of these is the concept of architectural barriers. Often, in historical and monumental buildings, what is generally identified as an architectural barrier in a context devoid of specific qualities becomes a defining element of the building to which it belongs. An emblematic example is represented by the forecourt of churches. This space is indeed an integral part of the building and serves as the transition between the urban space and the consecrated space of the church. It's clear that such an element cannot simply be considered a barrier to be demolished but should be regarded as an essential element of the space and therefore integrated into the accessibility improvement project. In this sense, studies in the field of accessibility and all the research carried out by FAL aim to identify the most appropriate tools and methodological approaches to work on heritage. Considering also that precise rules cannot be established for improving the accessibility of places to be applied uniformly across all architectural heritage, a flexible and adaptable attitude must be adopted. Therefore, it is more convenient to identify general working principles and methodologies tailored to individual specific cases. The development of Accessibility Plans by FAL thus has a dual objective: on one hand, identifying access issues to define effective and concrete improvement strategies for the places where they are applied, and on the other hand, consolidating a theoretical knowledge, which is relatively recent, through tangible applications that can give substance to general principles. As mentioned above, the field of accessibility presents numerous elements of complexity and multiple facets since it encompasses all aspects of people's lives. One of these elements concerns the difficulty of achieving absolute goals, namely the impossibility of achieving total accessibility in a specific location for all individuals. The unattainability of the goal is inherent in its own words. Therefore, in the scientific community, the idea is now well established that accessibility represents more of a process to be developed than

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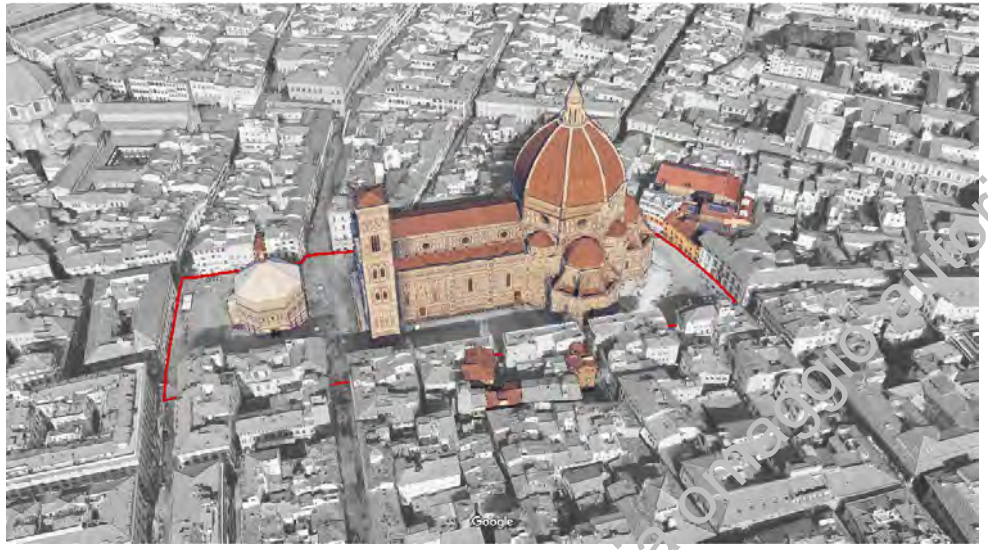
Fig. 1.
The balance between preservation and accessibility. A representative image of the Accessibility Plan of monumental complex of the Opera of Santa Maria del Fiore.

Fig. 2.
Arial view of the monumental complex. In color, the buildings analyzed in the Accessibility Plan



a goal to be achieved, a striving towards a goal that could be described as utopian. In this sense, every new Accessibility Plan developed, if shared and studied, represents not just an application of established knowledge but a new experiment that adds knowledge and understanding to abstract conceptual elaborations that require concrete feedback and verification.

As a final note in this brief essay, we want to emphasize our aspiration to configure the Accessibility Plan (PA) as a tool for the holistic management of a place, not just as a sector-specific plan aimed at solving specific issues. Therefore, we believe that the implementation strategies and programming of interventions defined by the PA should strive to harmonize the needs of conservation and preservation of spaces with consideration of the needs of user enjoyment and accessibility. The Accessibility Plan should be a unified management plan that places users and their right to know and understand the nature of these places at the center of their objectives.

Rising Design for All awareness: bridging theory to practice in architecture and professionals courses to design inclusive environments

Stefano Capolongo, Erica Isa Mosca**

The Design for All (DfA) approach advocates for universal accessibility, regardless of age, gender, or ability, endorsed by standards like EN17210:2021. Defined as designing for "human diversity, equality, and social inclusion" by the European Institute for Design and Disability (EIDD), DfA aims to create environments usable by the greatest extend possible of people. However, integrating DfA principles into projects poses challenges for designers, aggravated by the lack of emphasis on accessibility and inclusion in architectural education programs. In response, innovative approaches are needed to bridge the gap between theory and practice in inclusive design.

Objectives. Through the promotion of multidisciplinary collaborations and the reconceptualization of educational frameworks, the objective is to cultivate a new generation of architects with the skills to create environments that embrace diversity. The "Design & Health Lab" within the ABC Department at Politecnico di Milano aims to equip students of architecture and professionals with tools and a methodology that fosters the creation of inclusive environments. This endeavour is realized through a blend of theoretical lectures and hands-on workshops, prioritizing the integration of diverse user perspectives throughout the design process.

Results. The method implemented the DfA approach through a comprehensive learning experience consisting of theoretical lectures and three types of DfA workshops. The lectures covered topics such as disability, diversity, inclusion, and DfA in the built environment, ranging from urban to architectural scales through the involvement of guests with different expertise. The workshops served as practical applications of the concepts learned in the lectures and provided participants with first-hand experience of an inclusive perspective.

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The first workshop aims to immerse participants in the experiences of individuals with disabilities. Participants are divided into groups and are exposed to various disabilities: motor disabilities, simulated through the use of wheelchairs and crutches; visual impairments, simulated by blindfolding participants and providing them with canes to navigate tactile paths; and cognitive impairments, particularly dementia, simulated by imposing cognitive overload tasks such as filling out forms, washing dishes, or walking.

The second workshop aims to enable participants to perceive environmental features through the lens of individuals with disabilities. Based on the "Chain of Accessibility" framework and task analysis in user journeys, participants were asked to identify various tasks in their journey within a building, such as accessing, reaching, entering, and using different spaces. Each group is assigned specific tasks to navigate and explore different environments marked on a map. Participants assumed roles representing different "personas" with disabilities or needs, while one member acts as the leader overseeing the map. Upon returning to the classroom, groups shar their observations, thus employing a flipped classroom approach to facilitate peer learning and interaction.

The third workshop aims to educate students and professionals on assessing environments for accessibility and inclusion and proposing potential solutions. This workshop utilizes the tool "Design for All A.U.D.I.T." (Assessment Universal Design & Inclusion Tool), developed by the D&H Lab, to evaluate building performance based on DfA principles. Participants analyses buildings and outdoor spaces using qualitative and quantitative parameters to assess physical, sensory-cognitive, and social qualities. The outcomes included a percentage-based evaluation of each environment's quality and identified indicators for improvement. Participants were then tasked with identifying best practices and suggesting design strategies to enhance inclusivity.

This method was implemented in courses such as "Designing and Testing Inclusivity"

Fig. 1.
Workshops in Politecnico di Milano campus Leonardo, on the left workshop 1 during the experience of people with disabilities, on the right workshop 2 during the evaluation of the environment through the tool DFA AUDIT.

Fig. 2.
Workshop 2 in Politecnico di Milano campus Leonardo during the tasks analysis of accessibility and inclusion of the university buildings simulating people with different needs.

and "Design for All in the Built Environment" of the "Ambassador in Inclusivity design" programme of Politecnico di Milano, as well as in Design Studios of Master and Bachelor programs in architecture. Additionally, the successful second edition of the professional course "Design for All Strategy: operational criteria for accessible and Inclusive Design: The Role of the Inclusive Designer" equipped professionals with the skills necessary to design inclusive environments catering to a diverse range of individuals.

Conclusions. the methodology employed by the D&HL has shown encouraging outcomes in bridging the gap between theory and practice in Design for All (DfA), while equipping participants with practical tools for creating inclusive environments that enhance the well-being of diverse users. Participants' feedback highlights the effectiveness of this approach, indicating that experiencing the viewpoints of other users through immersive learning exercises broadens their perspective and enhances their ability to design inclusive environments. By fostering empathy and understanding, this methodology not only enhances participants' skills but also contributes to the creation of more inclusive built environments that cater to the needs of all individuals.

An opportunity to re-discover the complexity of the inclusion

The experiences of Mantua

Carlo Peraboni, Stefania Campioli**, Martina Borini****

Cities are complex systems with integrated components that contribute to create inclusive, liveable, and accessible spaces. The pandemic generated profound changes requiring collective interpretations to understand contemporary values and challenges. Urban inclusion has been challenged in its meaning, so it is crucial for city planners to reinterpret it as they work in fragile, vulnerable areas due to the pandemic's changes. Our work has sought to re-read this urban complexity, in terms of inclusion and accessibility, starting from the city of Mantua. The city represents a unique and challenging context in which investigate and implement our inclusive approach. Considering the university's three missions (teaching, research, and 'third mission'), there is a challenge to effectively contribute to society through education, research, and knowledge transfer, maintaining high performance standards. Additionally, we've collaborated with the Municipal Administration of Mantua to develop an inclusive framework of knowledge, enhancing our understanding of the city's characteristics. With these premises, we kicked off many activities that employed the concept of inclusion as one of the pillars to re-discover the urban complexity.

Among the several teaching activities related to urban academic fields in which we embedded the theme of inclusive public spaces, we started a new course named "Inclusive Design in Historical Context". Its purpose is to provide students with the cultural and scientific instruments to identify and solve the main urban problems within a historical context to make it more inclusive and accessible. Regarding research activities, we guided some master's degree Thesis on city accessibility focused on the case of Mantua considering an extended user base and the definition of a network of paths completely accessible. We also explored the concept of inclusion in relation to the urban strategy of proximity, and about the Placemaking approach to reinterpret current urban plans through its key to understanding. In our third mission initiatives, we collaborated with students from Virgilio High School and Redentore Institutes of Mantua. We developed a "school-work alternation" project, engaging students in a co-design process to shape the new library concept and activities. The latter involved middle school students in a series of lessons promoting inclusion, accessibility, proximity, and sustainability themes.

In this post-pandemic phase, it is crucial to explore the evolving needs of communities, as the correlation between social dynamics and the urban context has changed a lot. To understand this scenario, we made a reflection on the interpretative strategies that enabled us to understand and describe the design of public spaces focusing on six key concepts as follows. 'Not only architectural barriers' means that a city must be accessible to everyone, overcoming each kind of barrier and limit that preclude a real usability of spaces and a real participation of people to guarantee equal opportunities. 'Rethink the relationship between buildings and the city' is to consider the accessibility of both buildings and the spaces between them with a great focus on road network and mobility to let people move without any limitations. 'Ground proximity in everyday spaces' can be seen as an approach to addressing the critical issues raised by urban areas and as a strategy for managing and addressing the inclusion challenges. It stems from recognizing a shared need among multiple individuals who coexist within the same space and who valorise mutual care as responsibility. 'Diversity and the human dimension' means looking at the public domain as the total experience that users have when they move through public space, and diversity is the most determining feature that describes urban contexts because it embraces their complexity. 'Everyone wins with better inclusion' means to cover a broader scenario of requirements, so creating better cities for all. This approach can also be a driver for innovation and a powerful economic asset that enable everyone

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Fig. 1.
Some pictures about our 'third mission' activities with different stakeholders

Fig. 2.
Some elaborations developed into research work and master's degree Thesis (Source: Master's degree Thesis of Marta de Leo and Chiara Minato)

to live better. 'Adaptability and flexibility of inclusion' is a concept related to the idea of creating versatile urban spaces that can host different types of users and uses and to be convertible without structural works. It deals both with the process and the outcome.

The COVID-19 pandemic has underscored our interconnectedness, emphasizing the role of cities as spaces for sharing, connecting, and learning. The diverse experiences outlined above highlight the importance of establishing a framework of knowledge capable of understanding the evolving complexity of cities. Communities are in constant changes, and projects are never truly finished. This dynamic nature demands increased attention and effective management of administrative tools. Given this necessity, we initiated collaboration with the Municipal Administration of Mantua to develop two key documents: the PEBA Plan, aimed at enhancing city accessibility and fostering social inclusion, and the PGT, focused on promoting high-quality, proximate spaces and services.

FVG Accessibile: the Regional research system to support accessibility policies

Barbara Chiarelli, Christina Conti**, Ilaria Garofolo*, Elena Marchigiani* and Teresa Sambrotta***

In Italy today spatial accessibility still remains a significant challenge for spatial regeneration in small, medium, and large cities. Despite the existence of national laws promoting the implementation of Plans for the Removal of Architectural Barriers (PEBAs; Laws no. 41/1986, 104/1992), over time their application has been limited. Attention to these issues has been growing only recently, and local efforts have been made in public works and urban planning. Thanks to the Regional Law no. 10/2018 and the launch of the project FVG Accessibile, the Autonomous Region Friuli Venezia Giulia (RA FVG) stands out among the most virtuous Italian administrations. The institutional partnership working on the project includes the Universities of Trieste (UNITS) and Udine (UNIUD); the aim is to develop operational tools addressed both to improve spatial accessibility at the regional and local scales, and increase the quality of urban and architectural design. Within Architecture curricula, collaboration between UNITS and UNIUD dates back to the early 2000s. Since then, a number of joint initiatives have been organized to investigate and raise awareness of environmental accessibility issues through research, education, professional training, and active support to public policies and the civil society. These efforts have contributed to scientific knowledge transfer on a national and international scales, encouraging societal and institutional adherence to the principles of Universal Design (UD). In this perspective, the steps leading to a fruitful and permanent collaboration with significant stakeholders have played a major role; namely, with the Regional Council of Associations of People with Disabilities and their Families, and the Regional Information Centre on Environmental Wellbeing (CRIBA FVG), a front desk providing free advice to planners and public administrations on the removal of architectural barriers. The results obtained from the Universities on the one hand, and from the CRIBA FVG on the other have highlighted the need for more targeted actions to enhance regional accessibility and improve design quality. It was precisely the establishment of inter-institutional and interdisciplinary working groups that led to the enactment of the Regional Law no. 10/2018, and the development of a series of actions to promote the practical application of UD principles. Specifically, FVG Accessibile has been co-designed by RA FVG, UNITS, UNIUD, and CRIBA FVG. It provides a comprehensive and integrated framework of actions, policies, and tools to support municipalities, upgrade building and urban design standards, and provide concrete online resources for adopting accessibility as a primary requirement in urban space design and maintenance. Currently, the activities are focusing on the delivery of a structured set of decision support and dissemination tools. To date, these technical documents and devices (either developed or underway) are: a) PEBA Guidelines for the elaboration and implementation of PEBAs, which outline a sequence of operations from conception to implementation by encouraging a cross-sectoral, multi-scalar approach to accessibility and highlighting the strategic role of PEBAs in urban renewal; b) an Accessibility Ontology to describe the urban context, and enable the development of a web-based Application (see next point); c) a web-based online Application ("PEBA FVG") for detecting architectural barriers and drafting PEBAs. The Application ensures homogeneous and comparable data collection, while feeding a regional database for mapping accessibility; d) Library of Solutions providing normative references and design solutions to support interventions that enhance accessibility and disseminate UD culture; e) a Performance Requirements list, namely a set of criteria addressed to guide design towards the improvement of accessibility in open spaces and the built environment; f) web Portal acting as a repository of information about the FVG Accessibile Project, a support to professional training, a source of data, and a showcase of ongoing PEBAs; g) training courses for professionals covering basic UD concepts, tools usage, and practical guidance for spatial mapping; h) a Regional Observatory of Accessibility to monitor accessibility in the region, assess the quality of PEBAs and interventions, while disseminating research results and information on future steps.

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To ensure the full functionality of this rich set of instruments, it is essential that new processes and tools are well understood and accepted by their final users (policy makers and technicians in public administrations, professionals, citizens). However, taking on a new approach is a hard challenge for local institution and professionals who are often used to working in an established and sectoral way, and whose propensity for change tends to be rather low. Therefore, to ensure the implementation of UD principles as ordinary components of urban policies and projects, in the next future more efforts will have to be addressed in the fields of university education as well. This is a crucial challenge for Architecture schools; they are asked to be ready to promote the training of future designers in the integration of inclusive approaches within architectural construction and urban design paradigms. Specifically, future professionals will have to be able to design spaces, create objects, and structure services that are concretely addressed to meet specific users' needs. The reference is to a new cultural approach, going well beyond the simple removal of physical and sensory-perceptual barriers, and addressed to the achievement of the broader goal of universal inclusion. However ambitious these objectives may seem, the strong commitment and experience that UNITS and UNIUD have developed since many years is understood as a valid starting point. In this perspective, the future launch of the Regional Observatory of Accessibility will be another significant step. The aim is to provide a national reference point for fostering continuous learning among different stakeholders, through systematization of the results of FVG Accessible, and dissemination of the best practices developed in the region.

Fig. 1.
FVG Accessibile System schematization

Special Workshop

Findings and Evidences from the PNRR project RETURN

Coordinators
Daniele Vettorato
Libera Amenta
Federica Vingelli

Planning and design strategies for activating resilience

Ilaria Cazzola, Benedetta Giudice**, Angioletta Voghera****

The term "resilience" has been widely debated in the international scientific literature dealing with urban and metropolitan settlements. However, the lack of a consensus on its definition makes it hard to link theoretical concepts with the practical aspects. Indeed, after conducting a brief literature review, it becomes clear that resilience is defined in various ways, depending on the scale, context and discipline. When it comes to urban and metropolitan settlements, as in the case of the Spoke TS 1 of the RETURN Extended Partnership, literature and international documents and strategies tend to focus on urban (Meerow et al. 2016), spatial and territorial resilience (Brunetta et al. 2018). Despite these conceptual definitions, developing effective solutions remains a challenging but necessary task, as natural hazards are expected to increase constantly. In this context, urban planners and designers can play a valuable role in identifying the necessary measures for creating a reference and guiding framework founded on a place-based and people-centred approach to resilience.

To pursue this framework, our testbed is the city of Turin (Italy) and its planning tools. Turin has a complex topography with hills in the east, a densely built-up city centre, and floodplains of the Po River and its tributaries: Sangone, Dora and Stura rivers. This diverse terrain poses challenges for managing hydrogeological risks. Data shows that over 65% of Turin's surface is artificial, which limits natural drainage significantly. Combining this high percentage with floodplains makes the city vulnerable to both prolonged rainfall and intense downpours leading to flooding. Turin also faces socio-economic challenges due to an ageing population, with a ratio of two people over 65 for every child under 14 years old, and deindustrialisation processes. These factors create critical situations requiring targeted interventions to increase resilience against hazardous events and socio-economic crises. The river context is the focus of our experimentation as it is characterised by a multifaceted socio-ecological system that allows for a comprehensive understanding of different assets: environmental, ecological, natural, anthropical and social.

In the past decade, urban and spatial planning in the territorial context of Turin have undergone significant changes to adapt to unexpected crises. Regional plans (*Piano Territoriale Regionale* and *Piano Paesaggistico Regionale*), which offer a solid structural and legislative framework for local plans, are being revised to align with regional strategies for sustainable development and climate change adaptation and to upgrade their operational effectiveness. The Metropolitan City of Turin is revising its planning tool (*Piano Territoriale Generale Metropolitano* – PTGM) with a focus on controlling land take, improving slow mobility, and enhancing green and blue infrastructure. More recently, the Piedmontese Po River Park has decided to revise its plan to enhance the territorial scenarios for ecological reticularity and local planning with regard to strategic and critical nodes from a landscape perspective. In 2023, the city of Turin began drafting a new land-use plan (*Piano Regolatore Generale* – PRG) with a shared future vision that incorporates feedback from various stakeholders. Furthermore, since rivers are our focus, a tool that comes to our aid is the River Agreement, a voluntary planning and participatory tool used to enhance the resilience and sustainability of river courses (both in terms of water quality and social awareness).

Within the RETURN project, we attempt to put the concept of resilience into practice by assessing the transformative capacity of a peculiar area of Turin. To achieve this, we have selected a set of Key Progress Indicators (KPIs) that dialogue and intersect the project's proposed taxonomy. After analysing this taxonomy, we have identified green (and blue) infrastructure as the key asset that fits different dimensions (natural, anthropic

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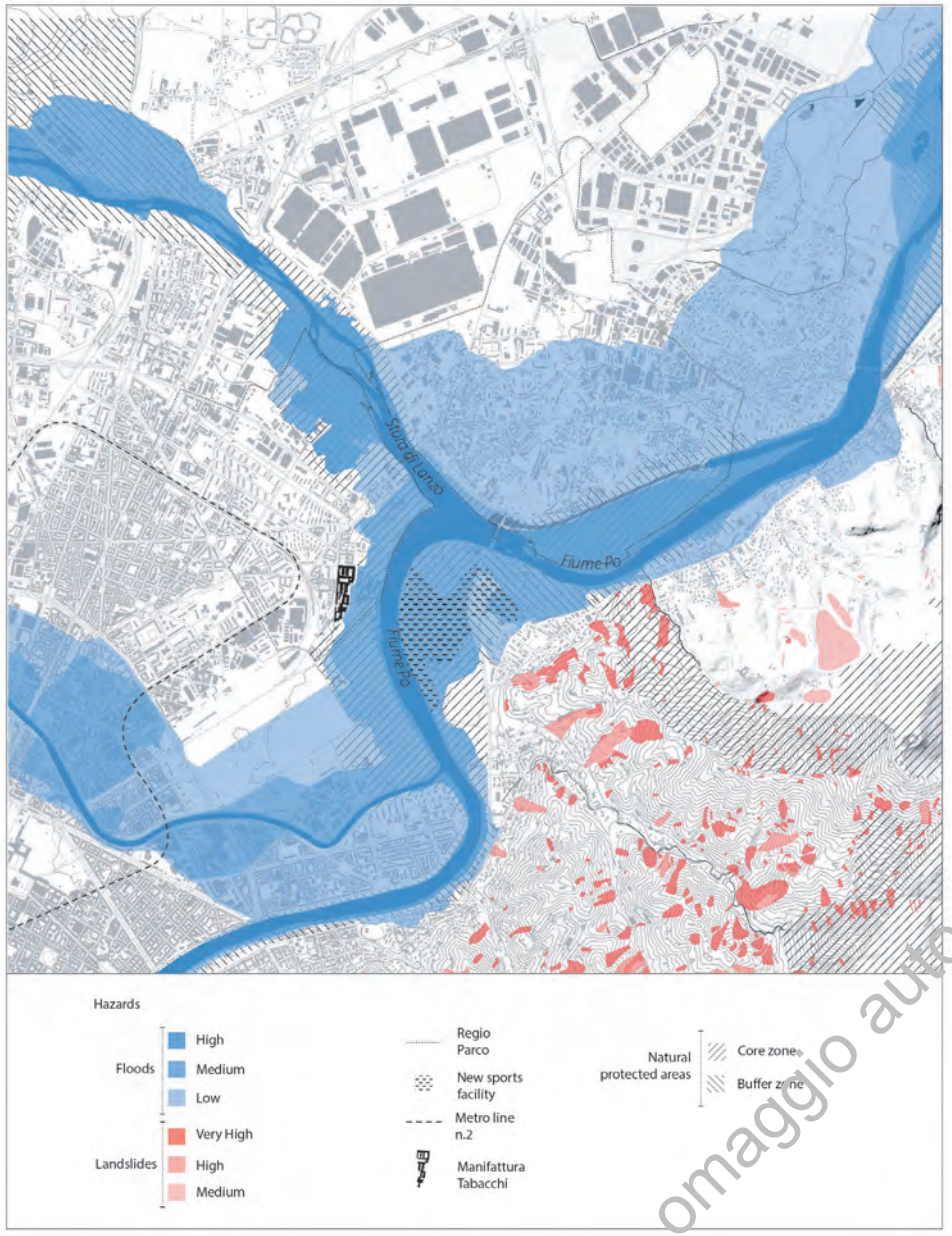
Fig. 1.
Hydrogeological Risk and Future Transformation Initiatives



and a hybrid one between the two) and enables practical solutions. This combined approach will be tested in the Meisino Park, an area located between the Stura di Lanzo and Po River, which represents the "hub" of several ongoing and envisaged projects: the presence of an abandoned industrial building (Manifattura Tabacchi), the proximity to the future metro line n. 2 and the foreseen construction of a new sports facility in a natural protected area. Such a strategic node, which also has social and hydrogeological fragilities, requires enlarged governance that can be managed through the River Agreement, thus guaranteeing the involvement of local communities and promoting an integrated landscape valorisation. The (re)interpretation and application of the RETURN's taxonomy, combined with KPIs and planning tools' indications, can effectively help respond to natural and social vulnerabilities.

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Green transition for climate resilient urban eco-districts

Valeria D'Ambrosio, Maria Fabrizia Clemente*, Sabrina Puzone*, Antonio Sferratore* and Sara Verde**

The targets set by the European Green Deal encounters today new challenges due to the growing impact of multi-risk conditions, requiring the addressing of sustainable development goals and the implementation of strategies for green transition. Urban climate resilience is gaining increasing recognition as a flexible concept to respond comprehensively to these challenges and to support urban design and planning. The development of knowledge, skills and technologies to reach climate resilience require concept guidelines, design proposal and assessment protocols to monitor the effectiveness of actions.

The paper aims to investigate the effects of implementing district-scale strategies for climate resilience increase and assessment. The district is assumed as compliant scale to investigate multiple elements of knowledge and critical environmental issues in accordance with national and international strategies and guidelines, such as the Italian National Research Programme (PNR 2021-2027). The district dimension plays a crucial role towards the green transition of urban settlements as it can provide for a reliable feedback on both impacts assessment and the joint effects of adaptation and mitigation actions oriented to resilience increasing.

To achieve this goal, the methods and tools developed for urban resilience assessment were first analysed in a multi-scalar perspective. These studies highlight how the urban resilience knowledge and operationalization is a complex challenge mainly due to its multidisciplinary nature and the complexity of urban settlements[1].

Starting from the methods "Resilience Matrix" (RM) proposed by Linkov et al. (2013) and "Behind the Barriers" (BB) proposed by Barroca and Serre (2013), it is elaborated a conceptual framework to support decision makers in urban resilience knowledge and assessment at district scale.

The RM method, in accordance with the "disaster resilience" cycle, decomposes resilience as the ability of the system to perform its functions also during a crisis, identifying four phases: PREPARE, ABSORB, RECOVER and ADAPT. These phases are related to the four domains that compose each urban systems: PHYSICAL, INFORMATION, COGNITIVE and SOCIAL. As result a 4x4 matrix emerges, which assesses how each of the four domains of the system behaves during each of phases of the disaster cycle[2]. Resilience is then evaluated by assigning a score to each cell that signals the ability of the system to function in that domain and in that phase[3]. According to the BB model the domains are the following: COGNITIVE, FUNCTIONAL, CORRELATIVE and ORGANISATIONAL[4]. A proposal of comparison between the domains of the two models can be done as follow: Information/cognitive, Physical/functional, Cognitive/Correlative and Social/organisational.

Having identified the parameters for the matrix composition, the methodological process to assess resilience at district-scale can be implemented as follows: 1) define the district boundary; 2) define hazard/s; 3) identify impacted systems; 4) select relevant indicators; 5) assign and generate the scores; 6) compose for each systems the resilient matrix; 7) aggregate the single matrix into a comprehensive urban resilience matrix; 8) analyse the results.

According to the proposed framework, this contribution is focused only on the investigation of the physical/functional domain in relation to the four phases of the disaster resilience

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cycle. The physical/functional domain of resilience correspond to: "the ability of a system to physically withstand disruptions, ensure its reliability, resistance and robustness"[5], in that case applied to district dimension. The framework was applied on Soccavo district, in the western area of Naples. The boundary of the system was identified investigating the geomorphological, infrastructural and natural limits[6]; the hazard considered is the heat wave; people and open space are considering as critical systems.

The indicators for each matrix cell are identified starting from previous research of the technological-environmental design research group of the Department of Architecture of Federico II University; for example, in the physical-prepare phase, Albedo and NDVI can be considered[7]. The identified indicators were then transformed into performance scores and the increase of such parameters, in addition to strengthen the resilience, enable the green transition of district into eco-district. Generated the matrix for both the critical systems considered, through a comparison between the lowest values, it was possible to identify the criticalities and the priority of intervention. By aggregating the individual critical systems matrices, a single overall resilience matrix can be obtained. To implement the process, the system of indicators and their weights can be implemented through workshops and laboratories with stakeholders; moreover, other systems or other hazards can be considered.

The contribution is developed within the research Partenariato Esteso PE3, RETURN project (multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate) (MUR Project Number: PE00000005), in the framework of the Spoke TS1 - Urban and metropolitan settlements activities.

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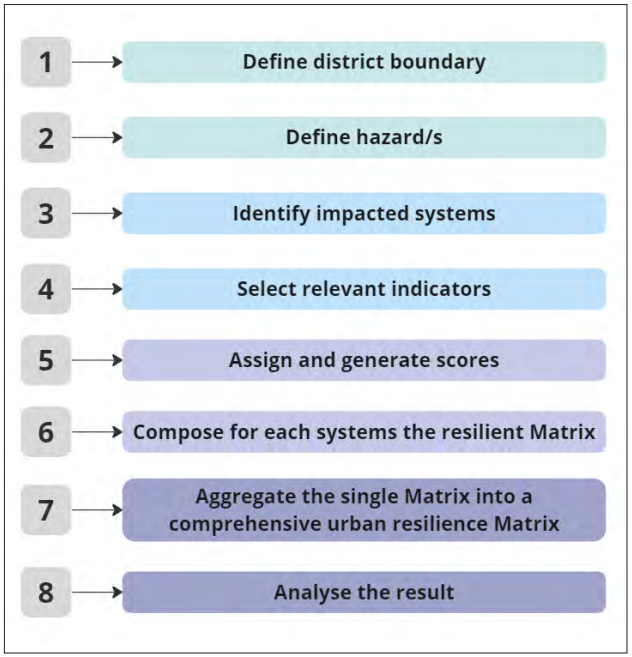

Fig. 1.
Operative framework proposal.

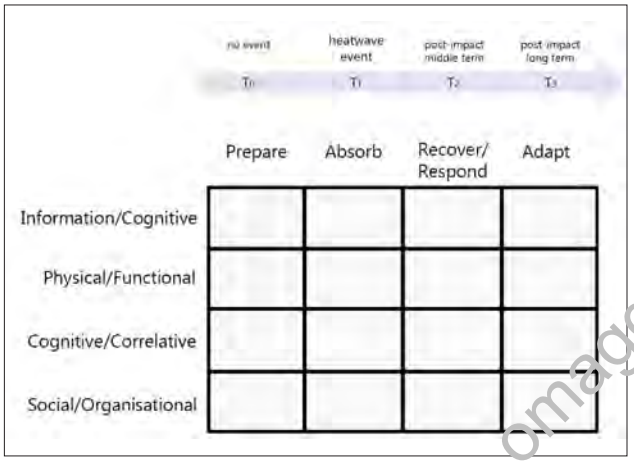

Fig. 2.
Resilience Matrix Proposal.

Assessing the supply and the demand of urban greenspaces
Case study of Cagliari, Italy

Federica Isola, Federica Leone***

Access to urban greenspaces (UGS), such as parks, gardens, and recreation areas, affects citizens well-being in terms of physical and mental health, social cohesion and aesthetic experience1. The contribution of UGS for recreation is a particular category of ecosystem services, defined as benefits provided by ecosystems to people. The urban global population is expected to increase by nearly 70% in 2050. In fact, Target 17 of Sustainable development Goal 11 stipulates that "by 2030, providing universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities." Therefore, ensuring UGS provision within cities is becoming a crucial point within urban and spatial planning. From this perspective, the study aims at evaluating the supply and the demand of UGS for recreational purposes within the city of Cagliari, Italy in order to support urban planners in assessing the supply-demand balance of UGS within urban areas. The study area, shown in Figure 1, is the City of Cagliari, located in the southern part of the Sardinia Region. The City of Cagliari is characterised by the presence of wetlands that occupy almost 45% of the municipal surface. The most densely populated areas are concentrated in the eastern part of the municipality. The study is conducted through an open-source tool, called "Urban Nature Access", which is one of the models developed within the InVEST suite (Integrated Valuation of Ecosystem Services and Tradeoffs)2. The model calculates the supply and demand for UGS, and the surplus or deficit of UGS per population and per area. Figure 2 shows the results for two indicators: demand for UGS and the surplus or deficit of UGS in relation to the resident population. With reference to the resident population's demand for green areas, the highest values are concentrated in the western part of the city. High values indicate a greater demand for accessibility to UGS from neighbouring areas. This result is not surprising since the eastern part of the municipal area is the most densely populated. The areas with values closer to zero are located near the urban parks in the dense fabric and in the less populated areas in the western peripheral areas of the city, characterised by the presence of the Santa Gilla Lagoon. With reference to the second indicator, which shows the balance between demand and supply of green areas by the total population residing in a given pixel, the areas that show an effective balance between demand and supply are to be found in the less urbanised peripheral areas of the city, in the vicinity of large urban parks and in those parts of the consolidated city characterised by lower building densities. The areas showing a deficit are concentrated in the historic centre of Cagliari and the municipality of Pirri and in the more densely populated peripheral areas, such as certain areas of the Sant'Elia district and the CEP district. These findings are also reflected in the literature. For example, in a recent article1, a study was carried out on the demand and supply of urban green spaces in the administrative region of Paris. This study shows that such results are not unusual in the case of large cities or in the case of cities with polycentric historical centres in relation to urban development, as in the case of the city of Amsterdam. The results of the study highlight how it is necessary to include the issue of accessibility to green areas as a fundamental element within the plans governing the territory. A further consideration concerns the amount of UGS to which each citizen should have access according to regional and/or national legislations. The legislation only provides a quantitative value of UGS that should be guaranteed for each inhabitant but does not take into consideration the distance within which that UGS is actually accessible to residents. In this regard, in 2021 Konijnendijk3 developed a theory for creating green and more equitable cities, the 3-30-300 rule. According to the study proposed by Konijnendijk, each resident: a) should be able to see at least three trees from

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Fig. 1.
The municipality of Cagliari (panel A); Land uses within the municipality of Cagliari (panel B); and spatial distribution of population (panel C).

Fig. 2.
The municipality of Cagliari (panel Spatial distribution of the indicator "demand for urban greenspaces" (panel A); spatial distribution of the indicator "surplus or deficit of urban greenspaces in relation to the resident population (panel B).

their home or workplace; b) should live in a neighbourhood with at least 30 per cent tree cover; and c) should live within 300 metres of a green area. In conclusion, the issue of UGS within municipal plans would need updating to take into account several concepts, including proximity and access, as well as quantity.

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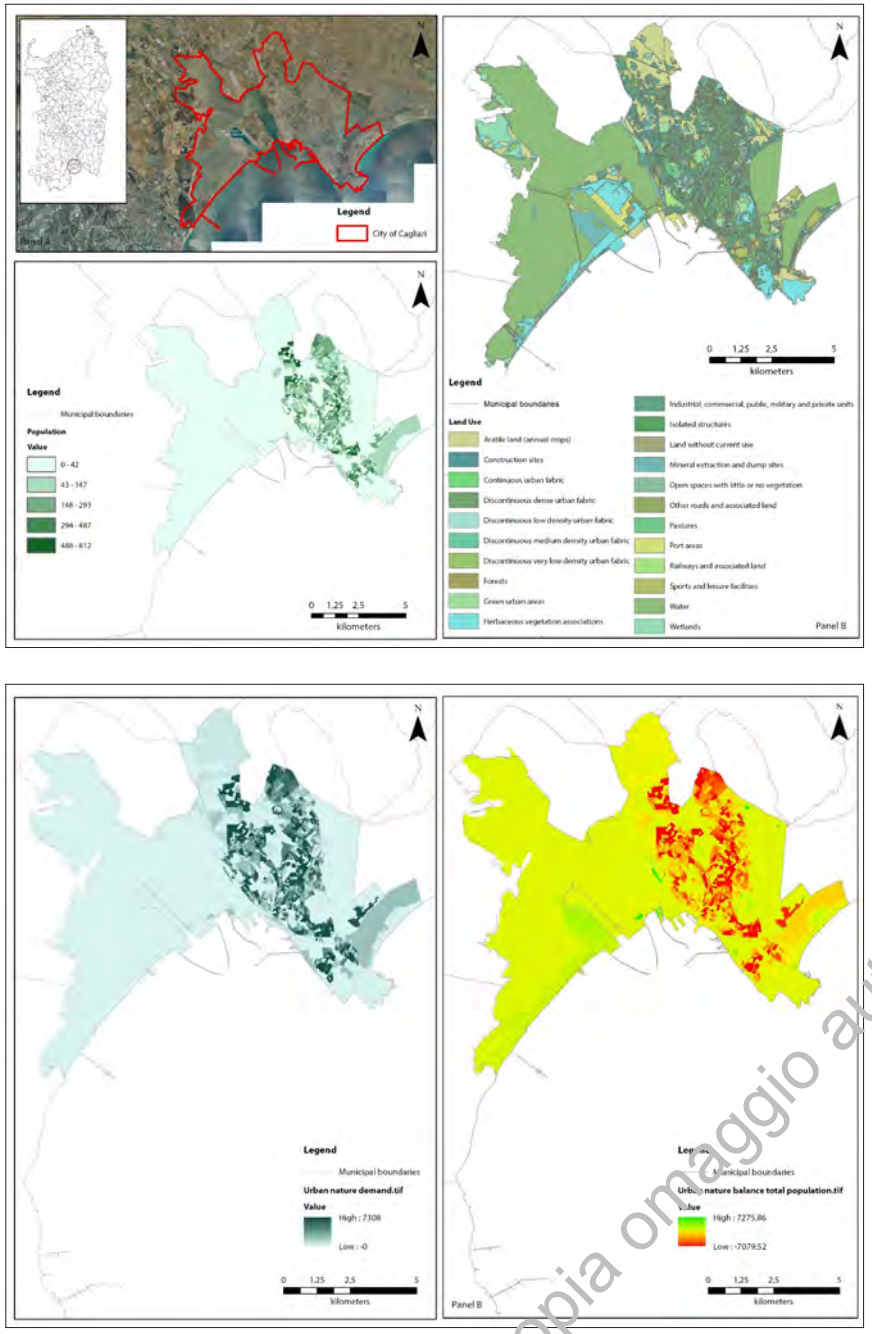

AI approach of emotion detection for multi-risk analysis in urban context

*Vittorio Miraglia, Barbara Cardone, Ferdinando Di Martino**

The application of sentiment analysis approaches to information flows extracted from the social network connected to particular critical periods generated by pandemic, climatic and extreme environmental phenomena allow the decision maker to detect the emotional states of citizens and to determine which areas are most at risk and require specific resilient adaptation interventions. Of particular relevance today is the need to analyse the multiple risks generated by extreme phenomena in urban settlements in order for the decision maker to identify which areas are most at risk and select optimal resilient action plans with respect to all the phenomena analysed. To monitor pandemic and climate/environmental multi-risk in urban settlements, we propose a GISbased framework in which an emotion detection method is applied to determine the prevailing emotional categories in urban study areas during periods of pandemics and in periods of emergency climate. Emotion Detection (ED) techniques are generally employed to detect emotions in unstructured texts posted on social networks. These techniques implement Natural Language Processing (NLP), lexicon-based, machine learning, and deep learning algorithms using the Ekman or Plutchick models of emotion categories to detect the most relevant types of emotions in the texts. To classify documents according to the most relevant emotional categories a fuzzy-based ED framework called FREDoc (Fuzzy Relevance Emotions Document Classification) was used. The main advantages of FREDoC are its high computational speed and the implementation of a multiple document classification method, which introduces a new measure of the relevance of an emotional category in a document. This approach allows to determine a more precise classification of the document, taking into account all pleasant and unpleasant emotional categories with relevance that is not negligible or above a specified threshold. The aim of the framework is to perform a multiclassification of the subzones of the study area in a set of periods based on the relevance of pleasant and unpleasant emotion categories detected in posts inserted by citizens and related to a set of environmental and climatic phenomena. FREDoc is executed separately to assess the relevance of citizens' emotions in a specific time frame due to the presence of each phenomenon in order to carry out the multi-risk analysis of the critical issues generated by the joint occurrence of hazard scenarios generated by different environmental and climatic phenomena. The joint importance of the emotions resulting from the coexistence of several phenomena at the same time frame was then evaluated; this was done by creating theme maps of the significance of both pleasant and unpleasant emotions in order to identify the critical subzones. The two data streams, Social stream hazard 1 and Social stream hazard 2, are, respectively, flows of social data connected to the first and second phenomena and inserted into the network by residents in the study area throughout the entire time frame of the investigation. This period is partitioned into atomic time intervals of equal width, called time frames. The framework was tested on the neighbourhoods of the city of Bologna (Italy) to detect, based on the emotions expressed on social channels, which were the most critical city neighbourhoods in pandemic periods and in the presence of extreme heatwave climatic events in the period 2020-2022.The summer months of June through September were selected as the three periods of the year in which heatwave phenomena occurred frequently in the city of Bologna, as several heatwave occurrences took place in the city of Bologna in the three years 2020, 2021, and 2022, particularly in the months of July and August. In the experiments, we carried out queries on all the posts published on Twitter by residents in the six districts of Bologna in the past three years, separately analysing all the posts whose keywords contained themes correlated with heatwave phenomena and with the COVID-19 pandemic. For each of the two hazards, the emotional relevance of the sixteen pleasant and unpleasant emotional categories was assessed separately over the three years; then, the aggregation of the relevance with respect to the two hazards was carried out. Moreover, for each time frame, the thematic maps were elaborated, in which the six districts were classified based on their emotional

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relevance. The outcomes, represented by thematic maps, show that the proposed model can be a valuable tool to support decision-makers in identifying the most critical urban areas in the presence of pandemics and environmental/multi-climate risks. The results highlighted that unpleasant emotion categories prevailed in the north-eastern region of the city over the entire period; this region represents a more critical city area in which predominantly unpleasant emotions expressed by residents over the three-year period were detected. The proposed framework can represent a tool to support decision-makers and urban planners in evaluating which urban areas are the most critical in the presence of multiple environmental and climate hazard scenarios and determining where it is most appropriate to plan resilient strategies and actions.

AI approach of emotion detection for multi-risk analysis in urban context

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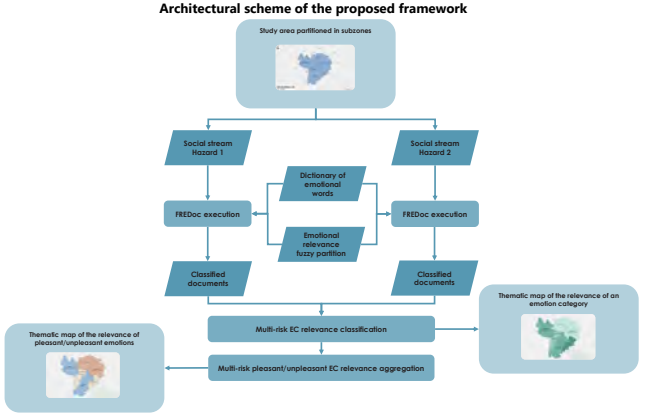
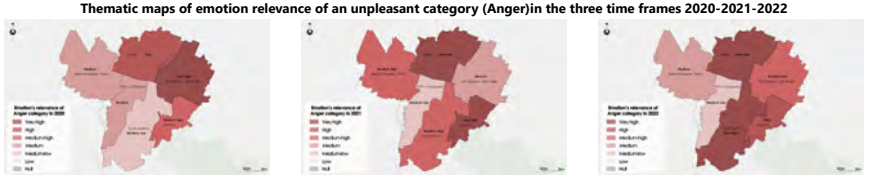
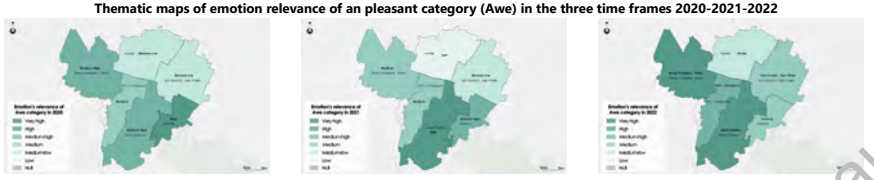
Architectural scheme of the proposed framework



Thematic maps of emotion relevance of an unpleasant category (Anger)in the three time frames 2020-2021-2022



Thematic maps of emotion relevance of an pleasant category (Awe) in the three time frames 2020-2021-2022



Thematic maps of multi-risk pleasant / unpleasant in the three time frames 2020-2021-2022

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Circular metabolism for planning resilient cities in multi-risk critical contexts

Sara Piccirillo, Federica Vingelli**, Libera Amenta***, Anna Attademo****, Rosaria Iodice*****, Benedetta Pastena******, Maria Simioli******* and Michelangelo Russo*********

Cities have become the main arena in which to address the complex contemporary challenges – climate change, social inequalities, spatial disparities, crises of the welfare model – which are exacerbated in urban contexts marked by multi-risk conditions both natural and anthropogenic underling the complexity of interactions between risks, territorial systems and urban settlements. Considering this overlapped framework, it can be useful to investigate critical urban contexts through a Metabolic and Circular perspective to develop new strategies for resilient and cities in line with European and global strategic agendas (ONU Agenda 2030, New Urban Agenda, Paris Agreement, Sendai Framework for Disaster Risk Reduction). The RETURN Extended Partnership, founded within the PNRR framework, is conducting a collaborative and multidisciplinary research framing the issues of multi-risk in urban regeneration processes to provide a common understanding of complex multi-hazard dynamics, by developing a shared methodology in agreement with local communities to apply the principles of Circular Territorial Metabolism and improve the habitability and quality of urban space while decreasing its risk exposure by actions o-designed in the Urban Living Lab and tested on a test case: the former industrial site of Bagnoli in the Campi Flegrei (Naples).
This approach broadens the sectoral and specialized prospective from which the issues of Bagnoli have been addressed and that is shown by the reclamation and regulatory act related to water and soil pollution, which left in the background the territorial issues connected to multi-risk – seismic, volcanic, bradyseismic, hydrogeological – and social; the development project of the area is not enhancing the recovery of the historical-archaeological industrial heritage nor pays attention to the issues of living in relation to the quality of existing settlements, based on the centrality of public space as a response to the lack of territorial facilities.

This paper presents the result of the first Urban Living Lab held in Naples in February 2024 during the workshop "Towards a circular metabolism. *Co-esplorare i paesaggi in transizione*" as part of the research tasks: Task 5.4.4 "Towards a circular metabolism for urban and metropolitan settlements" and Task 5.5.2 "City-scale exercise for risk scenarios evaluation". The workshop was attended by members of Return partnership from universities, businesses and research institutions and had the methodological objectives of defining the perimeter of the case study area and defining the objectives and actors of the subsequent ULLs. This is part of the first research phase defined as "co-exploration" of the critical context, its risks, communities, flows, critical issues and future scenarios. For this reason, the workshop consisted in both study and discussion seminars carried out at the Architecture Department (UNINA) with the participation of external experts and in field activities with the participation of key actors in the study area.

The area of Bagnoli was selected as case study because of the complexity and multi-layered risks to which it is exposed: a variety of both anthropogenic and natural risks invest this fragile coastal territory close to an active volcanic system. Moreover, the Bagnoli area is a former industrial site with an area of 249 hectares recognized in 2014(D.M 08/08/2014) as a Site of National Interest (SIN) for environmental contamination and pollution. The area of the former Bagnoli factory, covering approximately 120 hectares, is located within the territorial scope of Bagnoli Coroglio, identified by the 1998 PRG variant, which was declared a Site of National Interest (SIN) in 2001. The disused site, definitively closed in 1993, is located in the center of the Flegrean Caldera, an area between the dense nineteenth-century urban fabric of the Giusso neighborhood, important urban attractions such as the Mostra d'Oltremare, the Maradona stadium, the university campuses of Federico II, the military areas, and the imposing hilly system of Posillipo and the island of Nisida. In this scenario, the development of Urban Living Labs under multi-risk scenarios can represent the physical and virtual environments where to co-develop site-specific and hazard-specific innovative planning and design solutions and strategies involving the stakeholders and considering the circular economy principles as they represent spaces in cities that enable stakeholders to design, test and learn from socio-technical innovations in real time (ENOLL 2018).

In order to strengthen the relationship between technological innovation and site-specific characteristics in risk mitigation and adaptation strategies, the ULL laboratory

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activities were preceded by the visit to the SIN areas, subject to authorization by the state owner actor (INVITALIA s.p.a.). In fact, due to the health and environmental risk linked to environmental pollution, these areas have been closed to citizens for about 20 years. A presentation and debate took place on site with the commissioner's office. Visiting the area and meeting with key actors had been necessary to inform the expert participants of the living lab on the specific characteristics of the territory, before the "co-exploration" laboratory activities. They were held at "Circolo ILVA", a cultural and sports club, founded in 1909 at Bagnoli waterfront as a mutual aid society for the workers of the Ilva factory. Its privileged location makes the site ideal to get to know the test-case area because the community that uses this place is among the first exposed to territorial risks because it represents a social hub in a district marked by abandonment, disuse, and industrial pollution. Some representatives of the Ilva Club explained to Return members the history of the community t, together with their ambitions and complaints about the regeneration process of Bagnoli and assisted the experts during the ULL activities. The first meeting aimed to actively involve people in all stages of the research process, making them users and co-creators. This participatory approach can allow the exploration, analysis, experimentation, testing and evaluation of new ideas, scenarios, processes, systems, concepts and solutions as well as the targeted selection of actors, experts and institutions to be involved in subsequent ULLs. The partners involved delineated an initial identification of the key stakeholders active in the area including schools, residents' associations or independent social centres and local city institutions to be involved in relation to the most relevant issue and challenges. The perception of risk is very high among the participants, but it is above all linked to the fragility of the abandoned buildings within the area. In fact, almost all participants believe that some temporary uses of non-hazardous areas could also be introduced into the SIN. To determine and identify the stakeholders to be involved, questions were asked during the workshop, and participants worked on the co-creation of some maps that reported perceptions, ideas and strategies.

Through the Urban Living Labs methodology, a shared knowledge/design of/for managing risks in the area - between researchers and the community - will be developed relating the issues, times and technical tools of land reclamation with the life cycle of public space, the possibility of temporary uses and co-management experiments.

Fig. 1.
First RETURN ULL in Bagnoli. 23 Feb 2024. Photo by the authors.

Enhancing Urban Resilience:
transformational organizations for climate neutrality

*Daniele Vettorato**

Climate Neutrality plans[1] (mitigation and adaptation strategies) are essential for cities to build resilience in the face of climate change. They allow cities to minimize their impact, minimize the risks, protect residents, and create a more sustainable and liveable future. Literature and evidences suggests that achieving climate neutrality in cities requires a multi-faceted approach[2]. Climate neutrality strategies need a phased transformation with inclusive participation[3] proving a structured roadmap and fostering public buy-in, needs a systemic change in governance, to break down silos within city administrations allowing collaboration, efficient resource allocation, and need the development of effective climate solutions[4]. This work outlines and describes why and how the phased transformation with inclusive participation and the transformation of Municipal organization breaking down silos within city administrations are interconnected and dependent on each other. Climate change impacts various interconnected urban systems—transportation, energy, buildings, and waste management. Siloed governance, which treats these systems independently, hinders holistic climate action. The hierarchical structure of city governance often leads to compartmentalization[5], where departments focus narrowly on their responsibilities without sufficient collaboration. This lack of interdisciplinary cooperation impedes effective solutions to complex climate challenges. On the other hand, the departmental and hierarchical structure is beneficial for day-to-day city management, as it provides clear lines of responsibility and allows departments to develop specialized expertise. This can streamline decision-making and improve efficiency for routine maintenance tasks. Instead of dismantling this structure, the focus should be on improving inter-departmental collaboration[6,7]. Breaking down silos within city administrations involves overcoming isolation between departments, which impedes ambitious climate goals and effective urban transformation. Defining the phases of urban transformation is crucial for effectively planning and executing strategies aimed at enhancing resilience[8]. Phased urban transformation with clear milestones provides structure and facilitates stakeholder coordination. This includes phases like Vision, Decision, Planning, and Implementation, Monitoring and Replication and Upscaling which can be hindered by siloed municipal structures[9].

Vision: establishing a shared view for the future climate neutral and resilient city. A shared vision, as opposed to a tunnel vision[10], serves to align diverse stakeholders, engage communities, and prioritize actions towards a common goal of sustainability. It fosters inclusive participation, considers diverse perspectives, and assists in identifying vulnerabilities and adaptation strategies in the face of climate change. **Decision:** making key decisions and setting priorities to achieve the vision.

A clear decision-making process is crucial in achieving climate resilience and effective climate change adaptation, emphasizing the necessity for public participation, experimentation, utilization of multi-criteria frameworks, and collaboration between different levels of governance to align priorities and actions with a shared vision for resilience. Siloed departments with separate goals[11] and limited communication may prioritize actions that contradict climate resilience efforts. A focus on short-term economic gains overlooks long-term adaptation strategies. In addition, resource allocation becomes inefficient when departments operate independently. **Planning:** Detailed urban sustainability plans with concrete actions and timelines are crucial[12] for effective climate action. Such plans guide implementation, secure funding, and ensure

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clear goals are met. Each department in a silo focuses on its own agenda and goals[13]. This might lead to actions that contradict the city's overall climate objectives. Each department might have their own internal measurements that don't translate to a holistic picture of the city's progress towards climate neutrality. Silos make it difficult to optimize resource allocation. Departments might compete for funding or fail to share resources that could be used more effectively when pooled together. **Implementation:** Putting the plan into action, executing projects, and allocating resources. Effective implementation and resource allocation in climate change strategies is highly important[14], as well as the need for strong institutional capacity, innovative financing mechanisms, and multi-criteria frameworks to translate plans into concrete actions on the ground while prioritizing projects based on cost-effectiveness and specific goals achievement. **Monitoring:** Tracking progress, evaluating results, and identifying areas for improvement. A robust monitoring and evaluation (M&E) systems in urban climate governance and adaptation planning is important[15], to track progress, assess project effectiveness, and identify areas for improvement, as well as the importance of integrating urban climate data collection and selecting appropriate performance indicators to measure success and drive transformative change towards climate resilience. Fragmented data collection due to siloed governance hinders assessment of citywide climate progress. Standardized metrics aligned with the plan would enable everyone to track progress towards the same objectives. **Replication and Upscaling:** Efficient knowledge sharing and collaboration among cities are crucial for replicating successful climate resilience strategies[16], while upscaling these initiatives from local to regional and national levels significantly enhances their broader impact, fostering transformative change towards sustainability. Silos limit knowledge sharing and best practice identification within the city. This hinders effective replication of successful climate strategies in other cities. Sharing best practices and fostering collaboration across departments would allow for adaptation and wider adoption of effective approaches. Standardized data collection showcases impact, facilitating city-to-city learning.

Phase	State of play	Desired transformative actions
• Shared vision	• Isolated operation • Siloed structures often exclude valuable perspectives from other departments • lack of ownership. • Static approaches and difficulties in adapting to changing realities and new information	• Improve collaboration among departments bringing together perspectives • Create a unified plan owned by all the departments or by a higher level of governance • Include diverse perspectives from different departments • Promote a more dynamic and adaptable approach to the shared vision
• Clear decision making process	• Departments lack a comprehensive understanding of interconnected urban systems • Departments work with separate goals and limited communication • Inefficient resourse allocation among departments	• Sharing expertise, data, equipment and resources
• detailed plan with concrete actions and timelines	• Each department has separate agenda and goals • Departments compete for funding and resources	• Collaborative planning ensures that departmental goals are aligned with the city's climate neutrality vision and set clear and measurable performance indicators • collaboration in planning allows for a more comprehensive understanding of urban systems and their interconnections
• effective implementation and resource allocation	• Lack of coordination among departments • departments operate in isolation, their priorities might not align with the climate action plan • priorities not aliged with the climate action plan	• streamlined implementation breaking down silos fosters communication and coordination between departments
• robust monitoring and evaluation (M&E) systems	• difficult to collect and analyze data needed to track progress • fragmented data collection and metrics. • Departments track success based on their own narrow goals	• Developing standardized data collection and metrics • Shared Performance Metrics
• Sharing successful strategies and scaling them up among cities for broader impact	• departments operate with limited visibility into the work of other departments • It is difficult to showcase the positive impacts of a strategy Without a systematic monitoring of the performance	• Creating platforms for communication and knowledge sharing between departments • Establishing task forces focused on replication and upscaling • Fostering a culture of collaboration encourages departments to share best practices and work together

Fig. 1.
Phase, State of Play and Desired Trensformative action.

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Regulating ecosystem services in urban contexts

Supply-related evidence from the city of Cagliari, Italy

*Sabrina Lai, Corrado Zoppi**

This Abstract focuses on the discussion of main findings stemming from the published open-access article quoted in the footnote, related to the study area of the city of Cagliari (Sardinia, Italy). References to current literature are omitted here and can be fully retrieved from the article quoted in the footnote.

Firstly, as for the relationship between tree cover and carbon capture and storage (CCS), the effects are negative and not significant. The importance of urban trees in removing carbon from the atmosphere and storing it in their biomass is acknowledged by many authors. Most studies focus on urban forests and urban parks, while the role of street trees is under-researched. In Cagliari, they usually grow in small planting pits in sidewalks, which can hamper carbon sequestration by affecting the soil substrate and its quality, as well as water dynamics and water retention, hence impacting on trees' growth and overall condition. Moreover, a possibly relevant observation for Cagliari is that street trees in Helsinki can act both as carbon emitters or sinkers depending on their age and on seasonal variations, which might also help explain the lack of significance of the effect of tree cover on CCS, since no information concerning age and species is available in the study area. Furthermore, a relevant study on CCS by shrubs reports that, despite estimating their CCS capacity lower than that by trees because of their smaller structure and leaf coverage, nevertheless evergreen shrubs can perform better than deciduous trees because their removal activity through photosynthesis spans across the year. This is most likely of importance in Cagliari, where large areas are covered by evergreen shrubby vegetation, such as Mediterranean maquis with Euphorbia in south-eastern hills along the coastline, halophyte mid-height plants closer to the two larger wetlands, woody bushes and low, immature coniferous trees in the most important urban parks.

Secondly, as far as runoff control (ROC) is concerned, our findings highlight the positive significant correlation between ROC and medium-height shrub and low-vegetation land covers, as well as the positive, but far less significant, correlation between ROC and tree cover. This signals that, in general, ROC is positively correlated with whichever type of vegetated land cover, not only because of the soil's higher porosity, but also because vegetation, even when herbaceous, channels water fluxes through the roots; however trees have been found to deliver the higher levels of runoff mitigation in urban forests in a recent study, possibly because of their deeper roots which slow down water saturation in superficial soil layers. Moreover, the results single out medium-height shrub cover as the most important factor in positively driving ROC, while, and counterintuitively, the impact of tree cover is negative, although quantitatively modest. Trees recorded in the city dataset are mostly street trees in planting pits surrounded by paved surfaces; therefore, this highlights the significance of permeable, vegetated areas in retaining rainwater. The negative impact of impervious areas is fully acknowledged in several other studies, some of which propose mitigating solutions that result in increased vegetated areas, such as planting bushes and trees in paved areas to improve infiltration in Turin or unsealing paved areas and planting native shrubs to improve water retention in Izmir (Turkey).

Finally, regarding heat mitigation (HEM), the findings put in evidence the positive impact of tree cover on HEM, since both coefficients are significant and negative, hence an increase in the size of treed areas within a census tract is associated with lower maximum values of the surface temperature, although the magnitude of the impact is small, as signaled by the low regression coefficient. Several articles highlight that that size matters: in the Mediterranean area, unsealed soils smaller than two hectares have limited cooling capacity even when having a good canopy coverage. Moreover, several studies confirm that the HEM capacity of urban trees in the Mediterranean context is affected by the size of the area they stand on: they show that the mitigating capacity of tree canopies in road tree lines is approximately half that of urban and periurban forests; according to such studies, and in line with evidence from Cagliari, this happens because street trees' roots are mostly constrained within planting pits surrounded by sealed soils which hamper evapotranspiration, and ultimately the cooling effect. The limited cooling capacity of tree lines can be improved through appropriate design, which includes choosing the most appropriate species to increase both evapotranspiration and the size of the shadow, and selecting a suitable distance between the trees.

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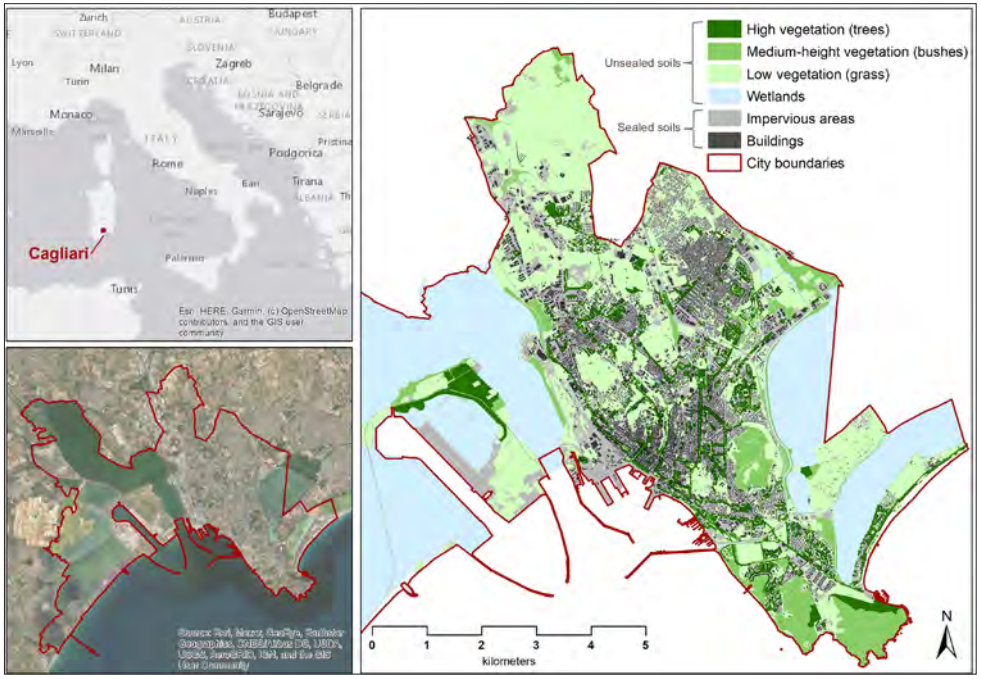

Fig. 1.
Sealed and unsealed areas in the municipality of Cagliari. Authors' own elaboration.

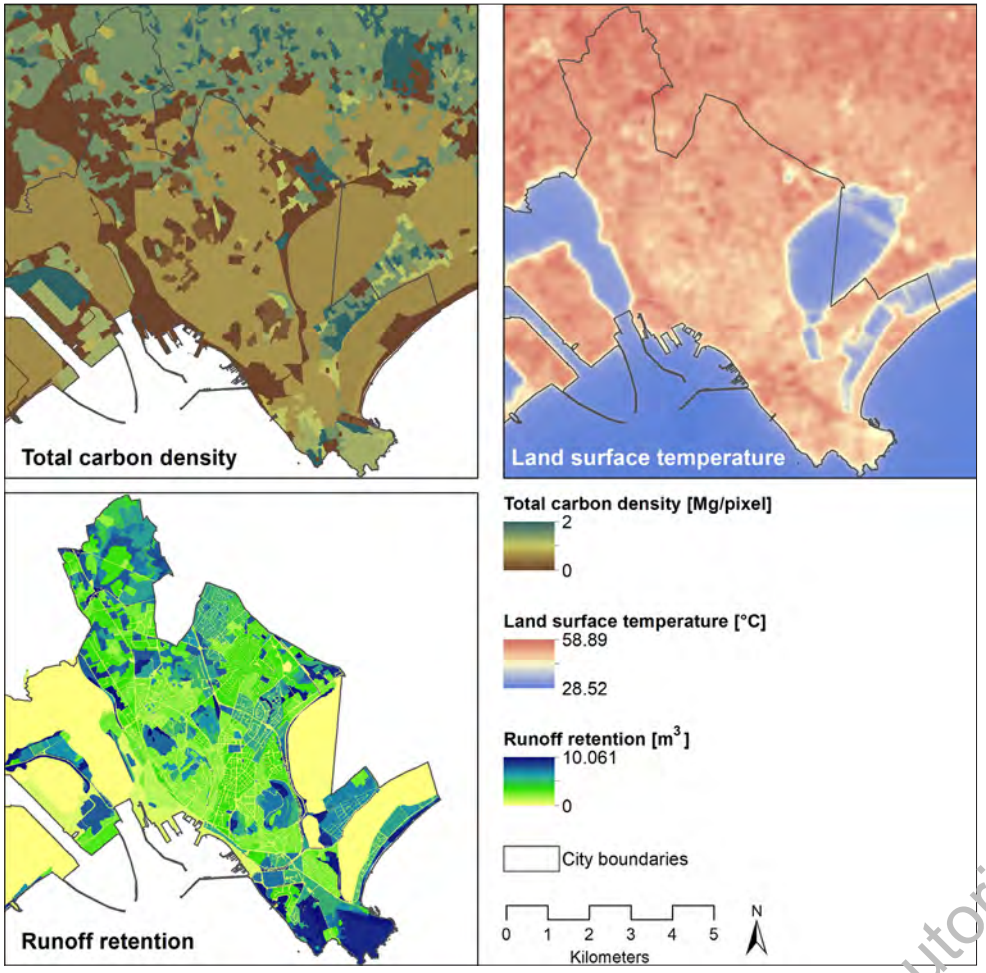

Fig. 2.
Spatial distribution of the three indicators selected to estimate CES (Total carbon density), HEM (Land surface temperature), ROC (Runoff retention). Authors' own elaboration.

Disaster Risk Reduction and Climate Mitigation and Adaptation, between the technical and the philosophic: towards the selection and appraisal of European urban design solutions

*Isabella Trabucco, Silvio Cristiano, Carlo Pisano**

The ongoing climate emergency is adding up to the multiple risks to which cities and regions are expected to be subject in the present 21st century, with parallelly galloping urbanisation specifically stressing urban and metropolitan systems. In an overall objective to define strategies for risk management in those urban and metropolitan settlements, with a focus on the Italian context, information is required to support decision-making with suitable approaches, performance indicators, and best practices, able to be diversified across plans (urban and metropolitan scale), urban projects (neighbourhood/district scale) and specific natural and climate crisis induced risks that stress those plans and projects (pluvial/fluvial flooding and drought). Building on and feeding back to more preliminary outcomes of other project tasks and work packages of Italian extended partnership "RETURN - multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate", with special regard to its spoke dedicated to urban and metropolitan settlements, a scientific roadmap and its first available results will be presented, dealing with the selection and validation - through appropriate performance indicators - of existing best practices on Disaster Risk Reduction and Climate Mitigation and Adaptation across urban plans and projects, towards the creation of a repository of European solutions, opportunely assessed and, if need be, adapted to the Italian context. From the analysis of present European best practice databases, the extrapolation of suitable projects that are compliant with this research framework, it is possible to reassemble the state-of-the-art definition of 'best practice' while questioning its relevance to the development of the academic discourse. Is an urban project considered exemplary as it considers and integrates not only technical and functional aspects, but also profound ecosystemic needs and their sustainment over time? In the design process, to seek possibly strengthened sustainability and resilience, is the subjectivation of the human and non-human entities who populate (and constitute) a spatial context considered by the best practices and the governance structures that initiated and produced them? Physical, geological, ecological, social, and technical aspects will be all considered, among others, brought together in an overall novel methodological proposal inspired on philosophic approaches to the protection of life, in both its human and non-human declinations. From the idea that the politics, that activates processes of risk mitigation and climate crisis adaptation, are necessarily enacting biopower and reflect the Foucaultian concept of Biopolitics, the research observes and evaluates the urban projects and the design actions applied as politicization of the biological life, oriented to its safeguard in the form of prevention. This will be put in relation with prospective urban systemic transformations, and related additional actions, including multi-side and multi-risk mitigation and adaptation measures, with the additional objectives to design solutions and measures to increase the resilience and carbon neutrality of urban and metropolitan systems to the climate crisis, to define pathways for climate adaptation and mitigation, also through the transformation of governance systems, and to define a roadmap for the urban-metropolitan systemic transition to climate neutrality also aligning with other ongoing initiatives (e.g. Mission Climate Neutral City by the European Commission, International Energy Agency, United Nations, etc.).

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Special Workshop

River Contracts as voluntary and negotiated planning tools

Coordinator
Massimo Bastiani

River Contracts: Innovation and Experimentation

*Angioletta Voghera and Irene Ardito**

The river contract method is framed within a broad context of awareness-raising on water management issues and greater attention to the quality and resilience of the territories crossed by watercourses. Specifically, it can implement strategies that find reference in the policies promoted by the 'framework for Community action in the field of water' of Directive 2000/60/EC and the plan of the 2015 National Strategy for Adaptation to Climate Change. More generally, they contribute to the action of the United Nations 2030 Agenda goals to the themes reported by the SDGs that promote the quality of urban environments through the sustainable and inclusive use of water and its management. Piedmont's experience in this field is consolidated: with the highest number of river contracts in Italy involving 60 territories and characterised by innovative and experimental approaches. Among the most innovative experiences in Piedmont's capital city are the Sangone river contract and the Stura di Lanzo river contract, which since 2008 the former and since 2012 the latter have been defining territorial and landscape strategies and visions with important project impacts. Along the Stura di Lanzo basin the environmental compensation plan is being experimented, which, in relation to the experience of the river contracts, defines an action plan through a shared and strategically oriented governance for the mitigation and environmental and landscape compensation of the anthropic impacts on the environment. The environmental compensation plan is a pilot methodology within the river contract for the construction and definition of socio-ecological performance scenarios, developed through a transcale approach, which considers the active role of various stakeholders, including social actors who become responsible for the systemic enhancement of environment and landscape along rivers (Voghera, article in press). When dealing with processes related to space, participation is extremely important to construct decision-making designs and it's able to create links between the members of a local community (Ciaffi & Mela, 2006).

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The actions and interventions promoted, through the environmental compensation plan, within the framework of supra-local planning and the objectives of the contract action plan are characterised by a "performance based" model, they go beyond the conformist approach and promote a performative model of action, not prescriptive but flexible and based on the prioritisation of socio-ecological compensatory actions for the environmental and landscape regeneration of the territorial system. This is the first Italian experience of an environmental compensation plan, which takes into consideration not only public but also private areas that are environmentally degraded and can be redeveloped, contributing to the implementation of the river landscape ecological network. Avoiding "spot" compensatory interventions, it promotes a systemic vision, on a vast scale with local areas of specific action, a strategy of landscape protection and enhancement (Voghera & Giudice, 2020). The plan is a method to make the objectives of the CDF action plan operational, also economically, and can help to build innovative visions and new projects in the territories, launching scenarios of systemic valorisation of the environment and landscape to be implemented through the empowerment of social actors and also through the experimentation of environmental compensation. Specifically, we can say that compensation is different from mitigation because while the last one has fewer implications on planning because of its less technical character, compensation plans have led to consider simultaneously different aspects under an environmental, ecological, landscape and social point of view. In particular, environmental compensation focuses on the need to select some specific parts of the territory which are close to degraded areas from an environmental point of view. Therefore, compensation is widely recognized as a useful tool and conservation action to counterbalance the negative impacts of a lot of development projects and considered a strategy to reunite different ecological networks in diverse parts of Europe (Jongman, Külvik, & Kristiansen, 2004). In Piedmont, the experience of the river contract has led to the CIRCA method, the catalogue of redevelopment and environmental compensation actions in the new PGTM of the Metropolitan City of Turin, with which the areas in which environmental and socio-economic regeneration actions are to be implemented on a metropolitan scale have been identified. The method of river contracts and innovative experiments, e.g. the environmental compensation plan, contribute, through their place-based and people-centred approach, to building democratic actions that transcend administrative boundaries, empower territories, and generate management actions for riverside areas capable of enhancing local, flexible and adaptive resources.

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Fig. 1.
Il Sangone oggi, immagine analitica tratta dagli elaborati concorsuali

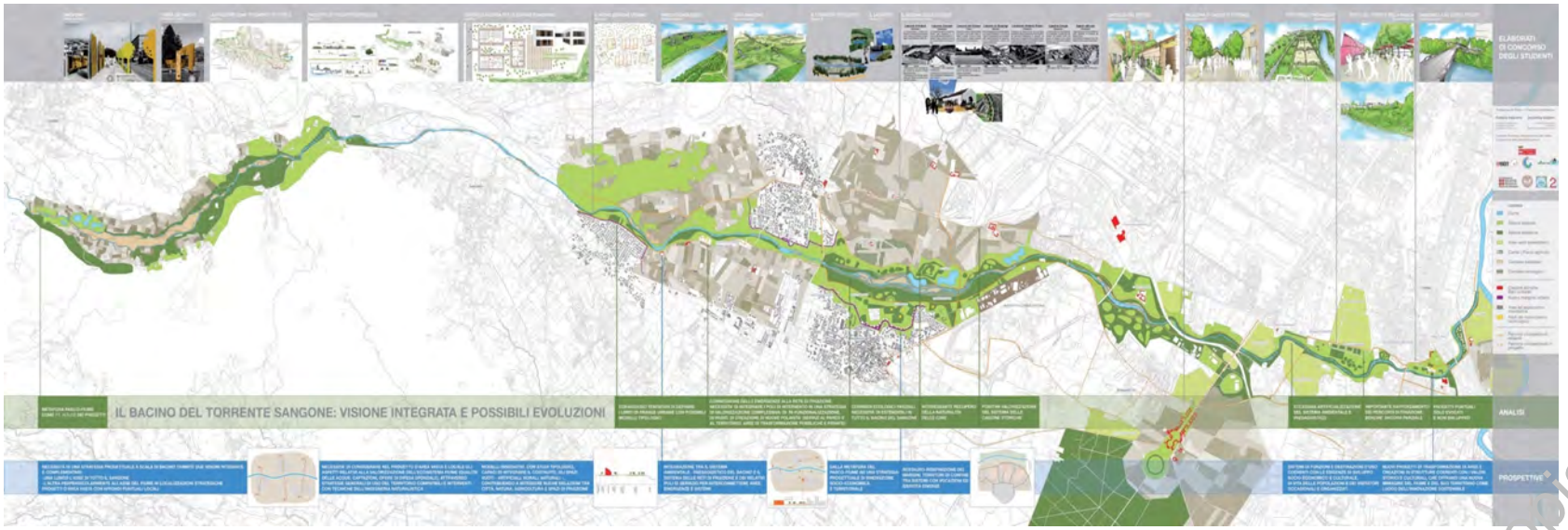

Fig. 2.
Ingaramo e Voghera, 2009, Masterplan del Sangone

River contract: an integrated and partipated approach for a sustainable management of water and territories

*Massimo Bastiani**

The river contract diction includes a legal figure, contained in the word contract and a term borrowed from the "milieu naturel" that invokes the description of moving water, a river. We generally refer to River Contract (RC), but also (Lake Contract, coastal or groundwater, wetland area). River Contract is an example on how contribute to ensuring the improvement of the water quality, protection against flood risks, as well as the implementation of the Directives 2000/60/CE through the voluntary development of strategies and action plans that can be applied in an effective manner to the water management. This approach has allowed to begin to consider operationally, water courses as "homogeneous hydrographic" entities able to overcome territorial affiliations and borders between states 2. River Contracts (RC) are voluntary tools of strategic and negotiated programming that pursue the protection, proper management of water resources and exploitation of river territories together with the safeguard from the hydraulic risk, contributing to local development. The parties to the belonging to RC define a shared Action Programme (AP) and are committed to implement it. RCs in Europe developed, starting in France in the early 1980 and spreading within a few years to many other nations such as Belgium and Italy, in many cases in the form of cross-border processes. In Italy up to now, more than 3000 municipalities are involved in about 200 River Contract processes, of which 80 are subscribed. For the Italian's experience local communities are considered a vital resource, active actors and partners and not passive elements made to seek consensus on already taken decisions . Lombardy and Piedmont were pioneering regions, implementing a number of river contracts for the protection of spring systems, environmental rehabilitation of flood detention basins. In Piedmont, the river contracts, introduced in 2007 through the regional Water Protection Plan concern not only rivers but also some major regional lakes. In Italy, the creation of the National Table of River Contracts the same year (2007) provided crucial support for the development of other river contracts, as it became possible to coordinate efforts and compare experiences to build a culture of collective governance. The initial river contracts have led to similar efforts in regions of central and northern Italy as well as in the south. The Abruzzo in the new programming has 28 million euros allocated under the Development and Cohesion Fund (FSC), work will be done on five rivers and the development and revitalization of the related areas. In Tuscany, river contracts are promoted by the Region, Basin Authority, local authorities and Reclamation Consortium, as in the case of "Pact for the Arno". A sort of "contract of contracts" intended to gather within it all the initiatives revolving around the Arno River. The experience of Italian's River Contracts is demonstrating that the implementation of public policies for water and hydrogeological risk management, can benefit from these tools in terms of local contextualization and improved effectiveness, making use of direct community engagement. But for this cycle to be fully accomplished, public policies are required to wholeheartedly support RCs and foster their full implementation (Fig. 1). Through RCs, decisions affecting territories are brought closer to the local communities concerned, who become their custodians and implementers. In the coming years throughout Europe, RCs can contribute to some important challenges such as river re-naturalization. With the Nature Restoration Law (approved on July 12, 2023 by the European Parliament waiting to complete the process to finally come into effect) we are in front of a quantum leap, not least because the European Commission has earmarked about 100 billion euros for biodiversity and its restoration. Implementation of Law in addition to being a challenge for all European governments could also be an important opportunity starting in our country for the River Contracts. Ninety-one percent of municipalities in Italy are exposed to more or less pronounced forms of hydrogeological risk. The fragmentation and artificialization of rivers is a criticality and it is important to improve their continuity. In this sense, great attention needs to be paid to river contracts a fundamental tool for supporting and connecting with local communities, otherwise we end up aspiring to only land simple public works albeit with more ecological purposes. If, on the other hand, interventions and decisions are shared within communities, better results are achieved in terms of sustainability, implementation time and durability.

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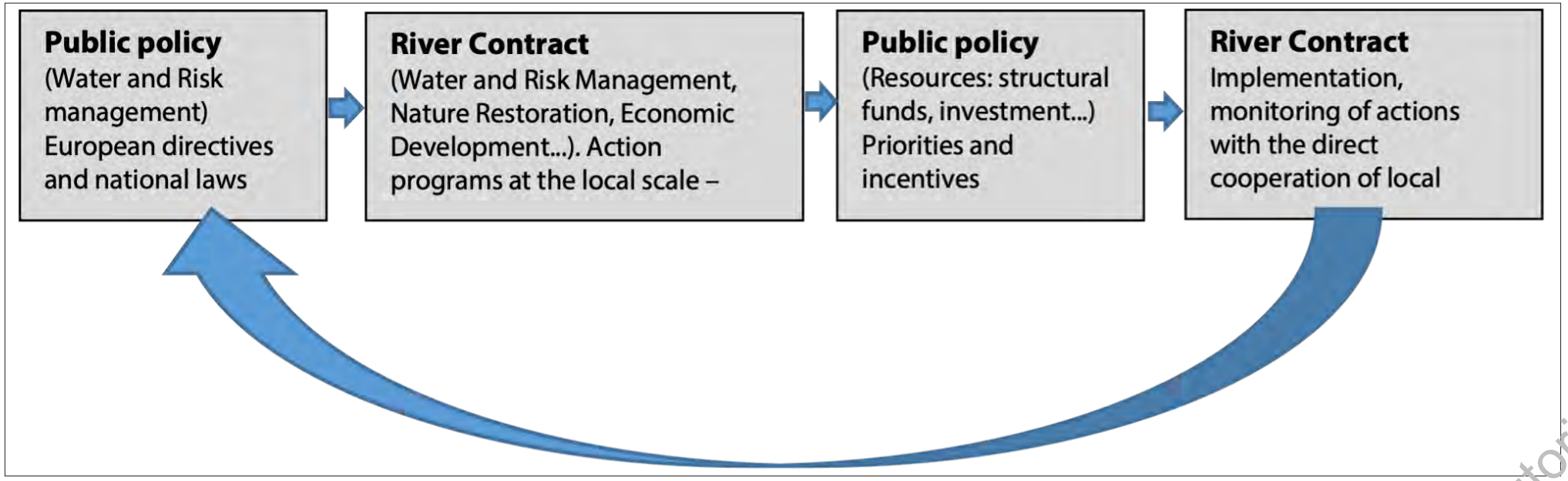

Fig. 1.
The contribution of river contracts in Italy to the territorialization of public policies (M. Bastiani)

From the municipal landfill to the Nature Reserve up to the River Contract

*David Belfiori**

Until the end of the 1980s, the area where the "Ripa Bianca" Nature Reserve and the Natura 2000 Site, IT 532009 "Fiume Esino in località Ripa Bianca" is located today was far from appearing to be an area of naturalistic and social interest. In the area there was the municipal landfill of the city of Jesi, with 35,000 inhabitants, a gravel extraction activity with a continuous coming and going of trucks and bulldozers and the remaining territory was made up of cultivated land close to the Esino river. The area was also abandoned from a social point of view with the presence of illicit activities: illegal landfills, drug dealing and prostitution. At the beginning of the 90s, thanks to the discovery of a colony of night herons (Nycticorax nycticorax) and the start of some environmental dissemination and educational activities, a participatory process began with citizens and NGOs which led in 1997 to the establishment of the "Sergio Romagnoli" educational-naturalistic area, covering 18 hectares with the addition of a hunting ban and entrusted to WWF Italy for the implementation of educational activities. The area was entirely municipal property, included the nesting site of the night heron and is located on the edge of the industrial area of the city of Jesi, easily reachable from the city by bicycle in 15 minutes. From the beginning it clearly emerged that the priority objective of the management of the area was the ecological and social regeneration through the restoration of biodiversity and ecosystem services, the implementation of environmental education and social inclusiveness activities. The management of the area followed two parallel and integrated paths: the first aimed at the consolidation and expansion of the protected surface with the application of regulatory instruments suitable for the conservation and increase of the biodiversity while the second aimed at the ecological and social redevelopment through the implementation of concrete actions. After the first status as a municipal naturalistic and educational area (extending for 18 ha), the area obtained in 1998 the status of Wildlife Protection Oasis (Italian Law No. 157/92), subsequently as a site of the European Natura 2000 Network (SAC and SPAs), to arrive in 2003 at the final recognition of "Ripa Bianca di Jesi" Oriented Regional Nature Reserve (Italian Law 394/92) for an extension of 310 ha, including agricultural lands for approximately half of its surface area. The status of a Natura 2000 site and as a Nature Reserve has allowed to have the Management Plan and the Impact Assessment of the Natura 2000 site as management tools, while the tools for the Nature Reserve are the Management Plan, the Regulation and Implementing Technical Standards. These tools had the aim of orienting the activities carried out within the Reserve towards the conservation of biodiversity and ecological restoration which resulted, for example, in grassy strips 10 meters wide for pollinators placed at the edges of agricultural land (for a global extension of 10 hectares), agricultural areas converted into flooding control areas or into wetlands, the increase in agricultural areas cultivated with the organic method, the planting of country hedges and ponds for amphibians. On the other hand, the proximity of the urban territory has allowed to carry out a progressive and growing support action (Environmental Education Center) for the educational and social realities of the city of Jesi with activities in nature such as outdoor education, summer camps, workshops for families, vegetable gardens for senior citizens , school-work alternation and university internships, volunteering activities and social inclusion activities such as collaborations with rehabilitation centers for drug addictions and people with neurological problems, work placements and volunteering for people belonging to disadvantaged categories. From being a degraded area, the "Ripa Bianca" Nature Reserve became at the beginning an area with the application of good ecological and social practices and subsequently, through the promotion of the Esino River Contract it exported the good practices implemented, outside its territory, influencing the redevelopment of the urban and agricultural territory of the Esino river valley. The Action Program of Esino River Contract (2021) is made up of 138 actions, the majority of which involve ecological restoration, environmental monitoring and educational activities such as the "Volunteer Rangers of the Esino River", the census of ecological fragmentation barriers, the planning of flooding control areas of the river, children river contracts and river trips. Initially the city carried out the ecological and social restoration of a degraded area that became "Ripa Bianca" Nature Reserve and then subsequently received what was invested in terms of regenerated ecosystem services (water, air, recreational services) with educational and social activities not only in the city of Jesi but throughout the entire territory of the Esino river valley, 24 cities and a basin area of 1200 Km2.

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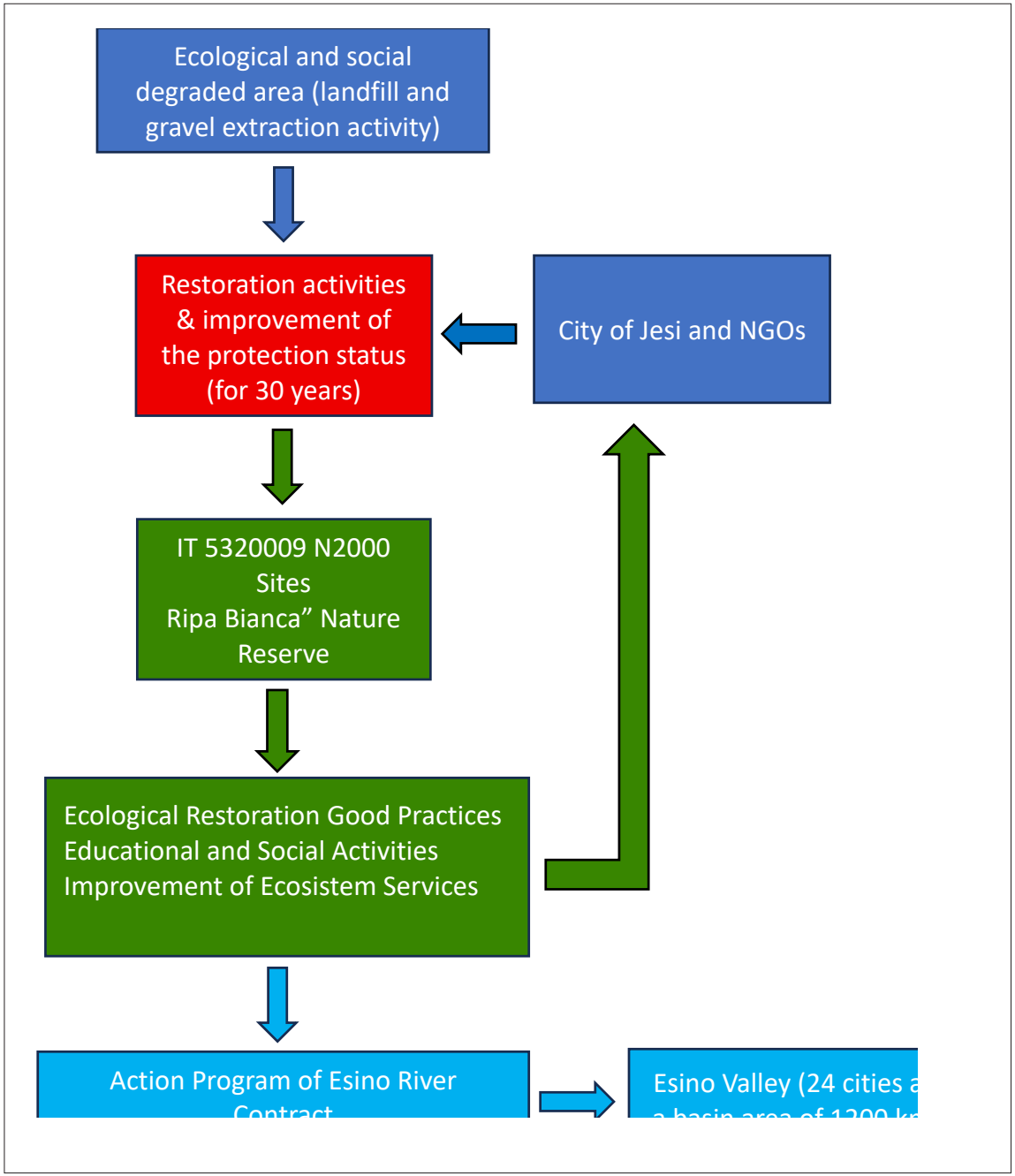

Fig. 1.
From the municipal landfill to the Nature Reserve up to the River contract

From the Vulture Regional Natural Park, the proposal for a River Contract to activate a process of sustainable and participatory development of the territories

Carlo Gilio, Laura Stabile***

In Basilicata Region, the Vulture Regional Natural Park was established by Regional Law No. 28 of 20 November 2017 with the aim of protecting, safeguarding and enhancing territorial resources, promoting research, sustainable development and the enjoyment of natural and cultural landscapes. The Park Plan is also being drafted, for which the implementation of multi-scalar ecological networks is central, in order to enhance ecological, landscape and environmental connection systems from the interregional level down to the local scale through the identification and enhancement of 'green infrastructures' capable of creating connections between the fragmented portions of the Park and the surrounding natural territory. Moreover, the Basilicata Region, which adheres to the National Charter of River Contracts in 2012, in the framework of the Regional Landscape Plan (PPR) identifies the River Contracts Project in the Programme Document and defines the Regional Guidelines for the implementation of River Contracts, a strategic tool for the protection, governance and management of water resources. They establish an important aspect aimed at the definition of the "implementing subject": the legal personality of a CdF, identifiable with a public-private partnership (PPP), is formalised from the start of the process with the signing of the Manifesto/Documento di Intenti, for the management of the decision-making process towards the definition of the Plan/Programme of Actions (PdA) and then the signing of the Agreement.

The 'Vulture River Contract', promoted by the Managing Authority, was set up with the intention of giving strength to the founding principles of the Park, favouring the implementation of protection and conservation measures starting from the participation of the communities and territorial stakeholders who are aware of the Park's values and the extremely rich biodiversity contained in different ecosystems characterised by the presence of an ancient, now extinct volcano, guardian of the secrets of the Lucanian territory's origins.

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With the Vulture CoF, the intention is to fully apply the Regional Guidelines with the aim of experimenting them in the field for the refinement of the application methodology, also acting as a stimulus for the start-up of new processes.

The Park territory is characterised by a very rich biodiversity, in some cases unique in terms of the species present, and by a complex hydraulic system that links volcanic lakes, wetlands, streams and torrents to the Ofanto River. The latter, which flows from its source in Campania to flow into the Adriatic Sea on the coast of Apulia, crosses the Regional Natural Park of the middle Ofanto Valley, promoter of the Ofanto River Contract, a process that has already been signed.

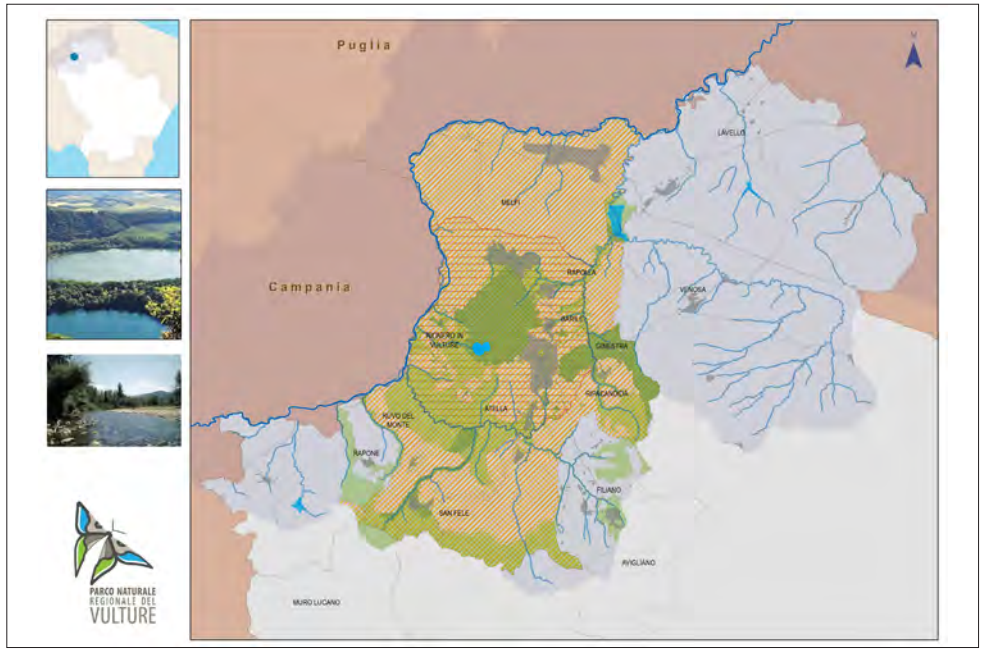
The entire basin of the Ofanto River becomes the sphere of reference, on a territorial scale, for the Vulture CoF, which in a first phase focuses on the regional territories and sub-basins, starting with those of the Fiumare di Atella and Arcidiaconata, to take on the supra-regional value of a 'Contract of Contracts'.

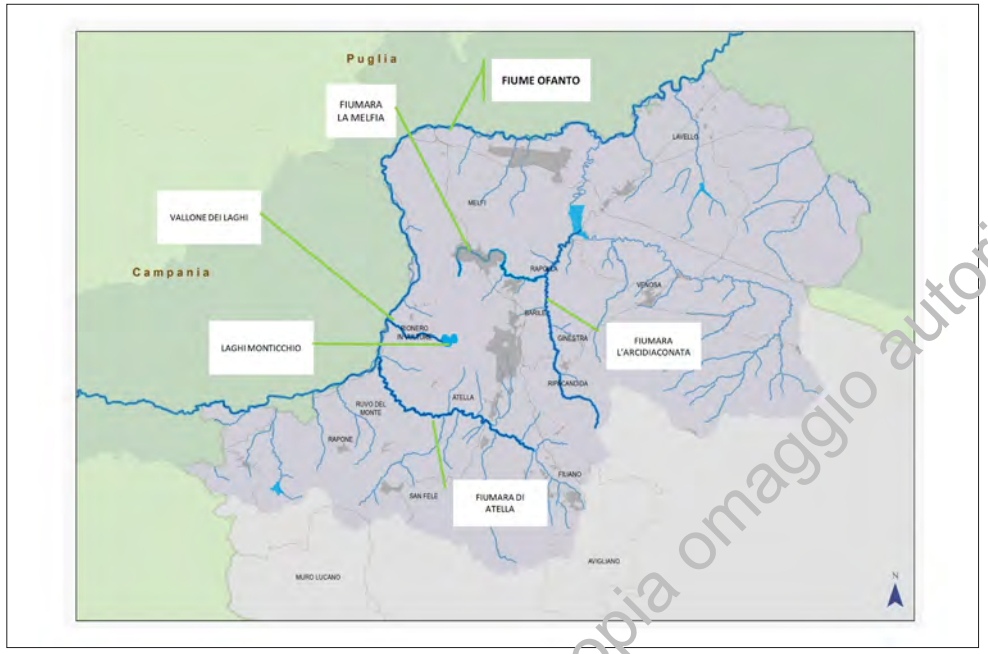
The area is dominated by Mount Vulture, a Pleistocene-age volcano whose craters host the two Monticchio Lakes. Surrounding it are the most populous population centres of Melfi and Rionero, service providers for the entire area, together with Venosa and Atella; the other centres do not exceed 5,000 inhabitants in most cases. The agricultural system is flourishing: vineyards, olive groves and chestnut groves are characteristic. The landscape is completed with a rich variety of material and non-material historical-cultural values (archaeological areas, feudal system of castles and fortifications, monumental cultural heritage, sheep-tracks, churches and fountains, rites and traditions, artistic productions).

With a view to the creation of green and blue infrastructures with a territorialist approach, the Vulture CoF intends to implement system strategies and punctual project actions that contribute to the implementation of the Park Plan in coherence with Community objectives, landscape, basin district and municipal planning, in connection with the

aspirations of the territory, balancing interests with the principles of sustainable development, improving governance and dialogue among stakeholders. The Vulture CoF intends, with the support of Universities and Research Centres, schools, Environmental Education Centres and Associations, to promote scientific research actions, territorial animation, training and education, citizen science, application and experimentation of good practices for the management and reduction of waste production, Nature Based Solutions for the adaptation to climate change, containment of alien species and habitat protection, slow fruition and accessibility.

With the CDF, the Park intends to implement a multi-level and multi-scalar process of sustainable local development and environmental redevelopment of the complex naturalistic environmental and social system, going beyond the administrative limits of the Park itself, placing the Vulture Water Landscapes at the centre, using the Regional Ecological Network as a driver of environmental protection and social innovation, enhancing it on a local scale, starting with lakes and rivers, contributing to the reduction of hydrogeological risk and soil consumption, and improving living conditions in general.





Involving communities in stategic planning at the regional scale

A regional design perspective on river agreements from basin visions to local projects

*Valeria Lingua**

Regional Design (RD) is a planning approach employed to build up robust argumentative structures and visions of the future that aim to guide decisions over a long period of time [1]. This contribution investigates the role that a RD approach can play for the involvement of local communities in river agreements (RAs), i.e. voluntary tools for territorial governance within a river basin that integrate different territorial and landscape measures and projects by different planning.

A RA has the intrinsic objective of integrating and territorialising sectoral policies into a multifunctional vision of the river, through a process that coordinates and supports local participation in constructing a new sense of community linked to the definition of a shared vision of the river as a common good to be managed in collective forms. The RD approach has proved to be operational for the definition of RAs by defining basin visions to be realised through both regional and site-specific local projects[2].

Within the case of the Elsa River in mid Tuscany, the RA has kicked-off by the joint initiative of 12 municipalities and a process of research-action driven by the Regional Design Lab of the Department of Architecture at the University of Florence. The methodology of analysis builds on the concepts of future literacy and networked leadership and falls within different areas of observation. The vision for the entire basin was made effective by the definition of a river park and a multi-modal walking/bike/riding-path running along the entire course of the river, together with local urban design projects situated in different points of access (gateways) to the river park. The participative process and co-design labs for the river gateways have led the local communities to activate networks of social capital for defining joint actions to be undertaken for making the Elsa River Agreement operational.

Given their nature of soft governance agreements, networking in RAs is the base for building up the river community and guarantee the implementation of the action plan. RD can give an added value to networking formation and consolidation, as it shapes or enhances regional networks and relationships through visualisation. Although making problems, dynamics and strategies visible can elicit strife, participatory processes within the frame of a RD process create occasions for confrontation and make different stakeholders contribute in defining the river community, by creating situations for collaboration and activating or enhancing the capacity of future thinking[3].

Performance of RD on this field measures the capacity to both enable visioning processes and enlarge networks: within the visioning process, RD initiates discussions and dialogues, makes multiple views visible, strikeout new directions by integrating multiple voices. From the governance side, it enhances participation and establish transparency and openness.

Moreover, RD fosters the RA implementation process by operationalizing local actions. RD does not replace statutory planning: in a strategic planning process as a RA, it represents the moment of construction, clarification and sharing of a vision by establishing indicative frameworks, images and visualisations of the territory that are functional to the interaction between institutions and stakeholders involved in a territorial project. Within this process, the creation of spatial representations is essential not only for creating, testing and calibrating strategies but especially for building up the institutional basis to support their implementation.

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1 Balz, V.E., & Zonneveld, W. (2014) Regional Design in the Context of Fragmented Territorial Governance: South Wing Studio, *EUROPEAN PLANNING STUDIES*, 23, 1-21; Lingua V. (2022), *Regional Design. Progettare l'area vasta*, ListLab, EU.

2 Pisano C., Lingua V. (2021), "The Impact of Regional Design on River Agreements: The Case of the Ombrone River in Tuscany", *PLANNING PRACTICE & RESEARCH*, 39:1, 32-53

3 Lingua V., Caruso E. (2022), "Futures Literacy as a reading key for strategic spatial planning: A community learning process for defining shared futures in the Ombrone River Agreement", *FUTURES*, 140, 102935

In the Elsa RA, the RD process has contributed to define a shared perception of the river region, able to go beyond the administrative boundaries of 12 municipalities, 2 provinces and the metropolitan city of Florence, using the river as the *trait d'union* among various spatial imaginaries and connected social practices, that were more or less explicit: from the valuable environment of the "Sentierlsa" park in Colle Val d'Elsa, to a backyard where inconvenient functions are concentrated, as in the industrial area between the municipalities of Barberino-Tavarnelle and Poggibonsi. The realisation of events in which citizens and administrations shared their vision on the river, together with many walking-workshops and design charrettes, helped to construct shared narratives for signifying the Elsa values and opportunities.

This process has strengthened local association networking and operationality: some local associations were already in action to oppose the installation of a hydroelectric power plant compromising the most valuable spot in the valley. During the process, the strife has turned into active valorisation of the river, to be implemented all along its course. Visions and perspectives provided in the RA have helped the communities to apperceive the relations between strategies and shared projects held by other citizens and associations that, in a reciprocal relation among strategies and tactics, make them visible and tangible.

Fig. 1.
The vision for the Elsa River Agreement

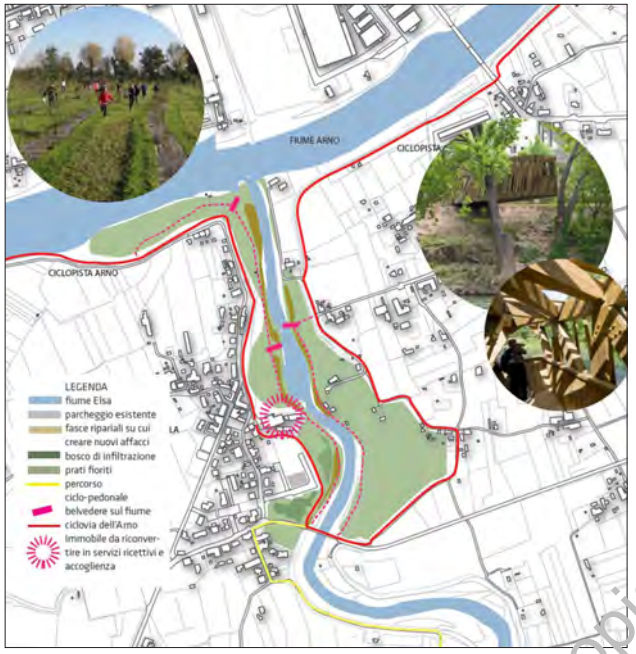

Fig. 2.
Local masterplan of the "Bocca d'Elsa" gateway in the Elsa River Park

Between management plans and environmental contracts
Challenges for an integrated wetlands' governance

*Stefano Magaudda, Serena Muccitelli, Carolina Pozzi, Romina D'Ascanio and Anna Laura Palazzo**

European and international regulations on the protection of nature and the environment agree on the need to provide protected sites with adequate management and monitoring tools to prevent weak and ineffective governance from hindering their conservation. Among the most important regulations, the Habitats and Birds Directives provide the conditions for the creation of the network of Natura 2000 sites, indicating management plans and contractual instruments among the conservation measures (Habitats Directive, article 6(1)). The Ramsar Convention, with the aim of creating a network of wetlands, requires that all Ramsar sites have a management plan, appropriate funding and a program to monitor the ecological status of the site (Ramsar Convention, Resolution 5.7 and Resolution VIII.14). The same instructions come from the Water Framework Directive (2000/60/EC), which requires European countries to promote an integrated approach for the management of wetlands through collaborative governance processes.

A mapping of Ramsar sites in the Euro-Mediterranean region indicates that although the majority (76%) of the Ramsar sites have management plans (Ernoul et al, 2021), yet the status of many Mediterranean wetlands continues to decline (Mediterranean Wetlands Observatory, 2018). This scenario allows to question the conditions for an effective management of protected sites and whether the management plan is an efficient and self-sufficient tool. Today it is widely recognized that management planning is not about the document itself, but is an adaptive, place-based and inclusive process involving a multitude of stakeholders that is only effective with political willingness and proper funding. Those considerations clearly point out the necessity of an effective governance, as a mean to achieve management.

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This contribution shows the Environmental Contract as a useful tool capable of laying the foundations for voluntary commitments between different stakeholders to foster sustainable governance of wet ecosystems. Although, despite the EU legal framework encourages the use of this governance model (Palazzo et al., 2021), Environmental Contract processes have been still activated in a very few countries in the EU.

In the framework of the Mediterranean Ramsar sites, the recent study by Ernoul et al. confirms that only 28.2% of the sites have an activated Environmental Contract, with the majority situated in France (where more than half (51.7%) of the Ramsar sites were totally or partially included in a voluntary environmental contract) and Italy, confirming the disparity between the number of Ramsar sites with management plans and the number of sites with Environmental Contracts.

However, positive trends in applying this tool to the management of Ramsar sites in other parts of Mediterranean Europe are due to the work of EU funded projects specifically aimed at testing and replicating the use of the tool into a wider geographical area and at strengthening its community of practice (e.g., Interreg Med 2007-2014 WATERINCORE, Interreg Med 2014-2020 WETNET, COASTING, TUNE UP, Interreg 2014-2020 Italia-Croazia CREW, Interreg Euro-Med 2021-2027 WE GO COOP). In the framework of such projects, several studies have been conducted to assess the application of the Environmental Contract in protected Ramsar sites. Among the results, it is valuable to report those related to the relation among the management plans and the voluntary processes. It emerged that those areas generally suffered from a lack of coordination since: (i) the management plans do not establish the competence to coordinate all the entities and public bodies involved, and (ii) although the River Catchment Plans set a governance board among the major public authorities as a form of coordination mechanism, that board remains confined to those authorities (River Catchment Authority, Regional Government, City Council). In this context the Environmental Contract succeeded to put

in place a process to create a multilevel and multistakeholder coordination overcoming, when needed, the limitations of the regulatory framework. Indeed, being built from the bottom to the top and through the involvement of social entities, it succeeded to raise common views and common stakes, to ease "conversation for conservation" and to ease the collaborative work between administrations with different competences.

Finally, the Environmental Contract can firstly support with a proper governance mechanism based on horizontal and vertical subsidiarity the implementation of the Management plan and secondly it can create the framework for setting, reviewing and updating the management plan in a participated manner, ensuring in this way that all entities are proactively part of the foreseen measures and solutions.

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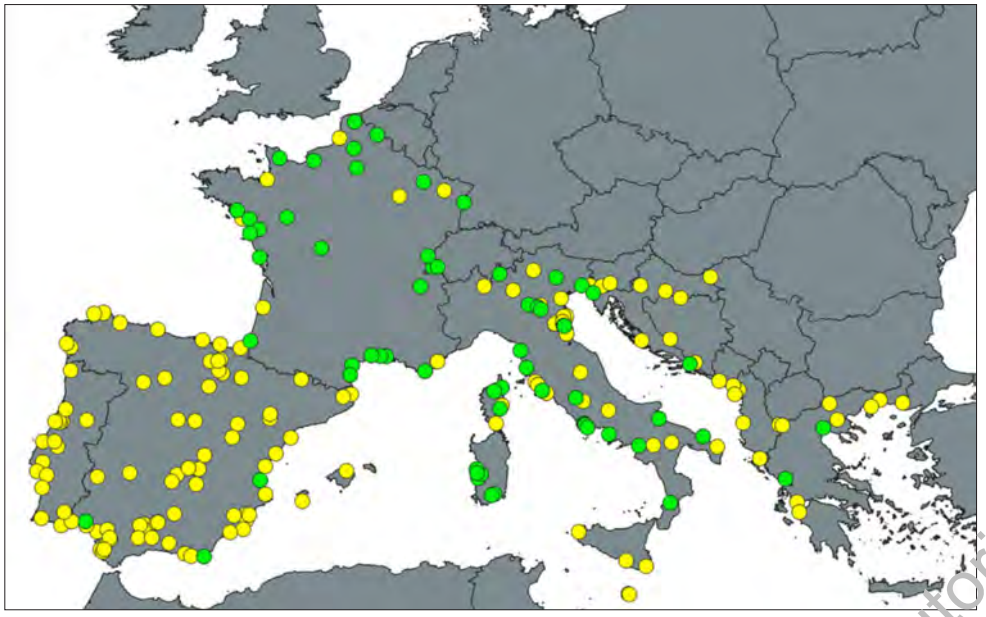

Fig. 1.
Geographical representation of Ramsar sites in the studied countries. Green symbols represent Ramsar sites that have voluntary environmental contracts

From local participation to basin-scale planning FOR WATER QUALITY

River, Lake and Wetland Contracts in Piedmont

*Paolo Mancin, Floriana Clemente**

> "The primary purpose of the River and Lake Contract is to recognize the central role of the water system in policies and programming relating to the governance of the territory". [1]

Piedmont is one of the first Italian regions to introduce River Contracts among its policies for the improvement of the quality of water bodies.

After some studies of various European examples, in 2010 four participatory processes were activated in different basins (Sangone, Belbo, Agogna and Orba), each of them characterized by particular critical issues. These "pilot cases" have made it possible to understand the enormous potential of the River Contracts for the integration of policies, for the co-financing of Action Plans and for the direct participation of local communities.[2]

Further River and Lake Contracts were born in Piedmont thanks to dissemination and territorial contiguity, in any case pushed by bottom-up initiatives coming from the territories, at a basin/sub-basin scale.

Piedmont Region has contributed, through coordination with the system of Italian Regions, to propose the legal recognition of River Contracts in National Legislation (art. 68 bis of the Environmental Code).

Piedmont Region is still going on promoting new participatory processes: River, Lake and Wetland Area Contracts, which are implementing the better strategies to achieve water quality objectives and which are fundamental tools for territorial and economic development of Local Communities.

The measures of the River Contracts Action Plans have been implemented in the Water Protection Plan (2021) and, for Piedmont, in the River Basin Management Plan of the Po District (2021-2023): the measures born from the participation of all the stakeholders at a local scale have become cornerstones of the strategy at a large basin scale, in deep accordance with the Water Framework Directive, the Floods Directive and the Climate Change Adaptation Strategies.

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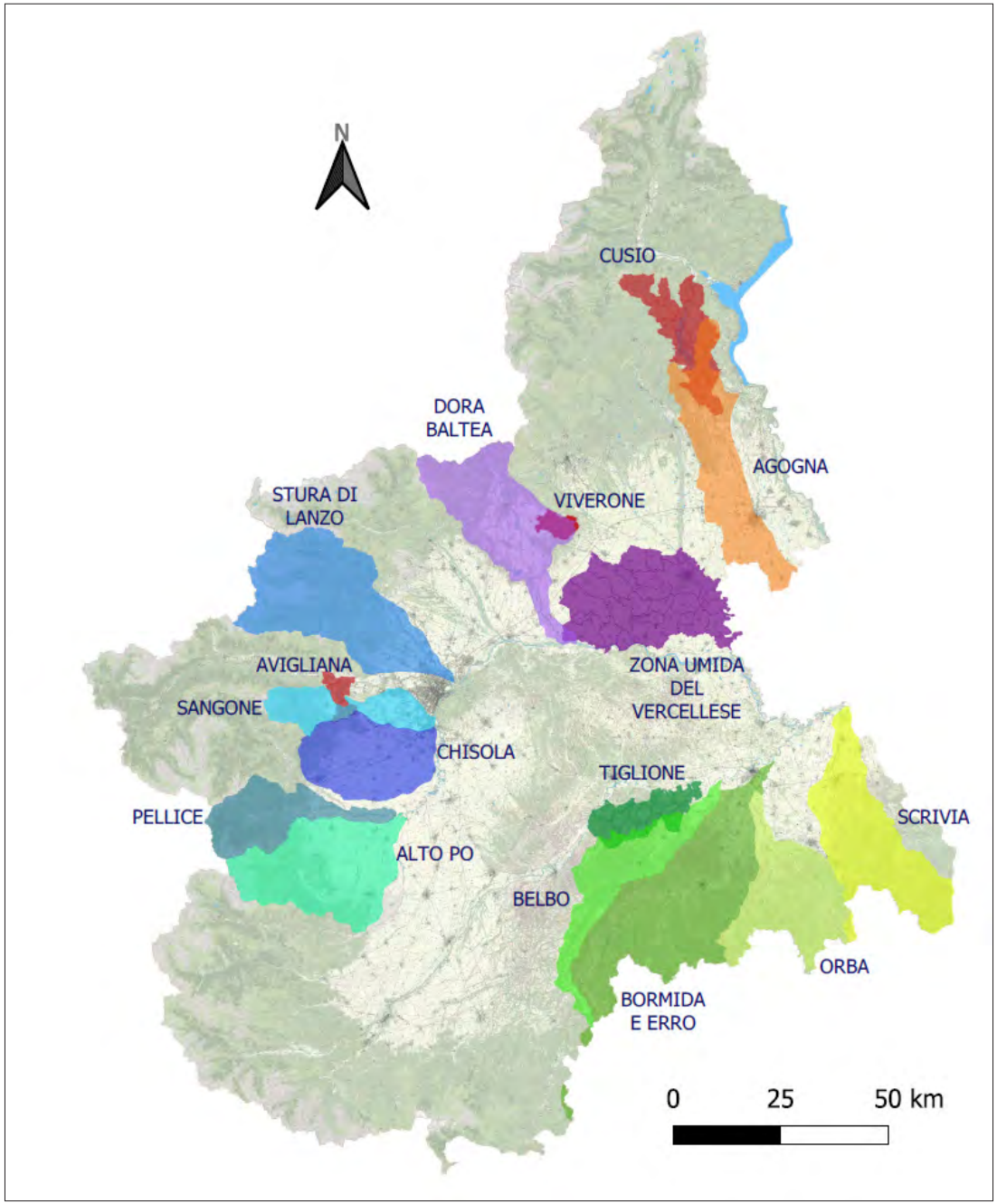

Fig. 1
River, Lakes and Wetland Contracts in Piedmont: main results and work in progress.

Water management and river contracts in moldova

Endro Martini, Alexandru Tabacaru***

The Italian Approach to River Contracts 'The Italian Experience of 'River Contracts' and Case Study of the Serchio Valley. (Unpublished) Prepared by Massimo Bastiani (National Table of River Contracts, Gubbio, italy), Endro Martini (Alta Scuola, cultural and scientific association, Perugia, italy) and Giorgio Pineschi (Ministry of Environment, land and sea, Rome, italy), disseminated in 2015 within the United Nations World Water Development Report 2015 (WWAP UNESCO) was successfully tested in Moldova in the years 2016 to 2019 within the KEP ITALY (Know Exchange Programme) of the Central European Initiative (CEI) through two cooperation projects. The first project named with the acronym SMA. RI.GO. "Smart River Governance: experiences in the mirror from italy to moldova" (Ref. No. 1206.006-15) has been co-funded by the Central Europe Initiative and supported by the Italian Ministry of Foreign Affairs . This project was an exchange and confrontation on the application of the European Water Directive (2000/60/EC) and the application of the European Floods Directive (2007/60/EC) on small river basins where rivers flow through urbanised areas and cities and on the use of the "River Contract" as a tool for participation and cooperation in water management, both when we have too much/floods and when we have too little/drought. The Moldovan experts came to Orvieto, Italy, and visited the Paglia River basin, a tributary of the Tiber River, to take note of the operational methods in place for the drafting of both the Basin Plan and the River Contract process, which was underway at the time. The exchange with the Republic of Moldova of the implementation of Italian River Contracts (JAN 2016-APRIL 2017) continued with a technical visit to Moldova where a similar river basin was considered, that of the Botna River, a tributary on the hydrographic right of the Dniepr River, which marks the border between Moldova and Ukraine.

This first project ended with the signing of a Manifesto of Intent for the implementation of a River Contract for the Botna River (Fig. 1).

Following the success and awareness-raising on the River Contracts, a second project with the acronym SMA.RI.GO 2.0 "Smart River Governance 2.0: implementation of the Botna river contract for integrated management of river areas" (Ref.No. 1206.006-17) co-funded by the Central Europe Initiative and supported by the Italian Ministry of Foreign Affairs was realised in the period from JAN 2018 to APRIL 2019.

The Moldovan partner in this second project was the Apele Moldovei agency, which is the national agency that manages river basins in Moldova .

The experience, led by the Alta Scuola Association with an Italian partnership and Moldovan beneficiaries, was successfully carried out until the drafting of an Action Programme (Fig 2) for the territory of the Botna River (a tributary of the Dnjper River), which included proposals for structural and non-structural interventions in both urban planning and water resource management. É sta questa una positive experience, which has seen the Italian approach successfully adopted in a country outside the European Union, which has opened negotiations to join the Union as of 2024, and which will also include this experience in the curriculum of "European" good practices to be presented to the European Commission for the evaluation of the requirements for admission.

Fig. 1.
(Intents and goal Manifesto Botna River Contract)

Fig. 2.
(Botna River Contract Action Program)

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CEI
CENTRAL EUROPEAN INITIATIVE
KEP ITALY CALL

Main know-how provider

BETA studio
Other know-how provider

DBGA
Republic of Moldova beneficiary

SMA.RI.GO. PROJECT

SMART RIVER GOVERNANCE: EXPERIENCES IN THE MIRROR FROM *ITALY* TO *MOLDOVA*

"Project co-financed by the CEI Know-how Exchange Programme through the CEI Fund at the EBRD", sponsored by Italy "

INTENTS AND GOALS MANIFESTO

TOWARD A RIVER CONTRACT FOR BOTNA RIVER

with the sponsorship and support of

EIP Water Action Group
AG422
Smart River Network

Regione Umbria Italy

Comune di Orvieto

Italian National Board of RIVER CONTRACT

CEI
CENTRAL EUROPEAN INITIATIVE
Know- how Exchange Programme Italy 2017

Italy

Project applicant (main know-how provider)

Other know-how provider

Moldova

Agenţia "APELE MOLDOVEI"

DBGA
Republic of Moldova

Caroma-Nord

Know-how beneficiary institution:
Water Agentie Apele Moldovei, State Enterprise Basin Water Management Authority of Moldova, Technical University of Moldova, NGO Caroma Nord (Moldova).

SMART RIVER GOVERNANCE 2.0: IMPLEMENTATION OF THE BOTNA RIVER CONTRACT FOR INTEGRATED MANAGEMENT OF RIVER AREAS.
(Acronym: SMA.RI.GO.2.0)

Call 2017 Kep Italy, cofinanced byCentral European Initiative Executive Secretariat (CEI-ES)
Sponsored by Italian Foreign Ministry(Ref. n. 1206.006-17)

BOTNA RIVER CONTRACT ACTION PROGRAM

EIP Water Action Group
Pooling resources - innovating water

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The theme chosen for the 14° Edition, organized from 22 to 24 April 2024 in Naples with the INU as the main organizer, is Inclusive Cities and Regions/ Territoires inclusifs. Inclusion is understood in its multiple declinations that define the 10 general themes of this Biennial - Regional issues and regional disparity, Metropolitan or city proposals, Urban regeneration and Public Spaces, Migration and cultural inclusion, Cultural heritage, Resilience and adaptation, New economic approaches, IT and the use of artificial intelligence in planning, Ports, airports and other infrastructures, Underground space – and in additional ones proposed by the participants who further specify the general themes namely About Spatial Inclusivity, Urban regeneration and spatial justice with Nature-Based Solution, Inclusive public spaces for water cities facing climate change, Italian UNESCO Chairs vision and actions, A Transdisciplinary Approach to Placemaking and Inclusivity: COST Action Dynamics of Placemaking, Inclusive city Ecosystems, Youthbanism for a New Generation of Urbanists, Fragile geographies. Visions, projects and studies to mitigate and adapt to environmental and anthropogenic risk, Green Oasis for the 15 minutes city model, Making/unmaking urban circular economies with 'otherness', Public space for inclusive cities: the Biennial of Public Space, Universal accessibility and university education, the knowledge network, Findings and Evidences from the PNRR project RETURN, and River Contracts as voluntary and negotiated planning tools.
The works contained in this Catalogue, presented by administrators, professionals, academics, and researchers concern projects, policies and research that have international interest and, at the same time, attention to the local, all at different scales.
It is possible, from this vastness of topics, to understand the broad discussion that resulted, outlining new interested subjects and involved actors, as well as new possible intersections of themes.

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In the cover
Hug. Napoli, San Francesco di Paola colonnades.
(source: Marichela Sepe' archive)

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