Special Issue 1.2024

What transition for cities?
Scientific debate, research, approaches and good practices

This Special Issue intended to wonder about the possible transformations for cities towards the sustainability transition. Hence, contributions coming from scholars as well as from technicians have been collected around three main topics: methodologies for prefiguring possible sustainable transitions; urban policies and drivers of the transition; possible projects and applications for sustainable transition. Reflections and suggestions elaborated underline the awareness that the transition process, above all, needs cooperation among decisions, information sharing, and social behaviour changes.

TeMA is the Journal of Land Use, Mobility and Environment. The Journal publishes papers which adopt unified approach to planning, mobility and environmental sustainability. With the ANVUR resolution of April 2020, TeMA Journal and the articles published from 2016 have been included in the A category of scientific journals. The articles published on TeMA are part of the Core Collection of Web of Science, since 2015, and of Scopus database, since 2023. The journal is in the Sparc Europe Seal of Open Access Journals and the Directory of Open Access Journals.

TeMA
Journal of
Land Use, Mobility and Environment

Special Issue 1.2024

What transition for cities?
Scientific debate, research, approaches and good practices

Cover photo: Aerial view Talas, Kayseri, Türkiye by Osman Arabacı.

TeMA. Journal of Land Use, Mobility and Environment offers research, applications and contributions with a unified approach to planning and mobility and publishes original inter-disciplinary papers on the interaction of transport, land use and environment. Domains include: engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science and complex systems.

With ANVUR resolution of April 2020, TeMA Journal and the articles published from 2016 are included in A category of scientific journals. From 2015, the articles published on TeMA are included in the Core Collection of Web of Science. TeMA Journal has also received the *Sparc Europe Seal* for Open Access Journals released by *Scholarly Publishing and Academic Resources Coalition* (SPARC Europe) and the *Directory of Open Access Journals* (DOAJ). TeMA is published under a Creative Commons Attribution 4.0 License and is blind peer reviewed at least by two referees selected among high-profile scientists. TeMA has been published since 2007 and is indexed in the main bibliographical databases and it is present in the catalogues of hundreds of academic and research libraries worldwide.

TeMA

Special Issue 1.2024

What transition for cities?
Scientific debate, research, approaches and good practices

Contents

Promoting a local and just green deal
School open spaces as a strategic opportunity for the city in the ecological transition

Maria Rita Gisotti [a]*, Benedetta Masiani [b],

[a] DIDA, Department of Architecture
University of Florence, Florence, Italy
e-mail: mariarita.gisotti@unifi.it
ORCID: https://orcid.org/0000-0002-2781-0551
* Corresponding author

[b] DIDA, Department of Architecture
University of Florence, Florence, Italy
e-mail: benedetta.masiani@unifi.it
ORCID: https://orcid.org/0000-0002-3551-017X

Abstract

Recent policies like the European Green Deal emphasize the urgency of implementing the ecological transition. However, there are associated risks, including the exacerbation of socioeconomic inequalities and an overemphasis on large infrastructure projects. The ongoing debate recognizes the need for a place-based approach, with cities at the core of the European transition and active citizen engagement. School open spaces can play a key role in implementing a local, sustainable, and equitable green deal, starting from their role of public equipment widespread in the city. This paper aims to assess how these types of spaces can be strategic, which are the fields of action of the transition process in which they can have the greatest impact and which areas to be improved. The paper starts from the definition of four strategic issues and four governance principles for localising the EGD. Then we selected and described twenty-five European best practices in the regeneration of school open spaces from 2019 to the present and we assessed if and how they deal with transition strategic issues and governance principles. Finally, research results are discussed together with potential pathways for the implementation of actions related to the local Green Deal.

How to cite item in APA format

Gisotti, M.R., & Masiani, B. (2024). Promoting a local and just green deal. School open spaces as a strategic opportunity for the city in the ecological transition *TeMA - Journal of Land Use, Mobility and Environment*, *SI 1*(2024), 97-114. http://dx.doi.org/10.6093/1970-9870/10298

1. Introduction

In recent years, the framework outlined by international policies such as the United Nations 2030 Agenda for Sustainable Development, the Paris Agreements and the European Green Deal (EGD) has highlighted the urgency of implementing integrated and large-scale interventions for sustainability, ecological transition and climate neutrality, severely hampered by the global upheaval caused by the COVID-19 pandemic and war in Ukraine. EGD priorities (European Commission, 2019) are not only environmental goals, but also a set of deeply cross-cutting transformations (Wendler, 2022) and a radical paradigm shift towards a new way of living, producing and moving (European Commission, 2020a; European Environmental Agency, 2021), as well as a decisive opportunity for Europe to position itself "as a green specialisation area through innovation" (Mccann & Soete, 2020, p. 8). The EGD is also seen as a strategic framework for implementing the 17 Sustainable Development Goals of the UN 2030 Agenda, through the adoption of a "whole of government approach" that creates synergy between the vast overlapping areas of these two policies (Papa & Sachs, 2021, p. 7). In the face of such a framework of intentions, EGD transition policies present several weaknesses, including: lack of rethinking of a development model based on environmental inequality (Ciplet et al., 2015) and unequal relations (Velicu & Barca, 2020); adoption of an overly strong sectoral approach in different policy areas (ETTG, 2022); concentration of resources on major infrastructural interventions regarding cities and territories to the detriment of ordinary maintenance of everyday life contexts. The transition is also associated with some risks or 'negative externalities', including: triggering processes of environmental gentrification (Checker, 2011) and ecological gentrification (Pearsall & Anguelovski, 2016); aggravating existing socio-economic and territorial inequalities (Coppola et al., 2021); being reduced to greenwashing within public debate (Delmas & Burbano, 2011).

On the basis of these assumptions, discussion has been taking place in both scientific debate and European institutions regarding the need to adopt a place-based approach (Barca, 2009) as a fundamental pillar for a more effective and just transition in response to space-blind and place-neutral models, which have been criticised for their standardisation and inability to take into account territorial specificities (Bentley & Pugalis, 2014). In this perspective, the 'local' scale has become increasingly important (Gisotti & Tarsi, 2023) and is considered indispensable for achieving quick results and obtaining adequate financial resources. Therefore, cities and metropolitan areas are now undisputedly the main drivers of the green transition (Alberti et al., 2019), as they are where structural socio-economic issues, poverty and segregation are most present (Abdullah, 2021a) and are the most vulnerable to impacts of climate change. Moreover, they have become home to urban models based on proximity, such as the French *ville du quart d'heure* (Moreno, 2020), particularly due to repercussions from the pandemic (Pisano, 2020). By updating some classical conceptions of urbanism (Marchigiani & Bonfantini, 2022), these models re-articulate the city into neighbourhoods that offer better quality of living. In summary, the local scale (i.e cities and neighbourhoods) is seen as playing a crucial role, in the belief that a systematic and lasting transition must be rooted in policies, projects and transformations at the closest scale to citizens (Abdullah, 2021b), who can and must be involved in participatory processes. With reference to this framework, recent studies have highlighted how school open spaces can contribute to implementing an ecological transition process at the urban scale that is local, more effective, and just. This paper aims to assess how these types of spaces can be strategic, which are the fields of action of the transition process in which they can have the greatest impact, generating positive effects, and those that should be improved. The aim of the paper is therefore to indicate possible developments and improvements in the field of urban regeneration policies linked to the transition involving school open spaces.

To argue this hypothesis the paper is structured as follows. The second paragraph is a literature review about the role of school open spaces in the ecological transition processes. The third paragraph illustrates the methodology we have developed to conduct our analysis. The fourth paragraph presents the results of the applied methodology, that verified the treatment of strategic issues and governance principles to localise the EGD in twenty-five best practices regarding regeneration of school open spaces, carried out in Europe mostly from 2019 (year of publication of EGD). The fifth paragraph discusses the results of the study and conclusions (paragraph 6) outlines some axes of work to improve the implementation of the EGD at the local scale.

2. School open spaces for ecological and just transition: a literature review

The role of school open spaces (courtyards, gardens, areas pertaining to school activities, areas surrounding schools) as a field of action for a green and just transition fits into the scientific debate and constitutes a rich landscape of ideas and innovative approaches. A literature review highlights first the crucial role that school open spaces can play in educating for ecological transition, promoting more sustainable and conscious practices (Stevenson et al., 2020; Toomey et al., 2023). Schools could be strategic for educating in the city of transition, seeing that they can sensitise the behaviours of new generations through their direct participation (Dessì & Piazza, 2020). Engaging teenagers in actions aimed at improving the quality of their daily spaces, such as school environments, leads to educational and relational benefits (European Commission, 2022). It triggers a cultural shift tied to increased awareness of environmental issues (Gill, 2014; Van Dijk-Wesselius et al., 2018). The analysis of the literature reveals a shared imperative for a paradigmatic change - an integrated, strategic, and interdisciplinary transformation - that requires a re-evaluation of various aspects of daily life, of which the school is particularly relevant. This includes new actions to encourage slow and sustainable mobility, the integration of natural elements, the promotion of circular practices (Tulisi, 2017; Renzoni & Savoldi, 2022). Schools can take on the role of pivotal centres for educational and social experimentation within the community, promoting new approaches to learning and civic engagement, and advocating for social innovation practices (Renzoni & Savoldi, 2019; Mattioli et al., 2021). This concept is explicitly articulated by the Organization for Economic Cooperation and Development (OECD), which, in 2020, published "Back to the future of education: Four OECD Scenarios for Schooling" to encourage the development of a forward-looking educational vision (OECD, 2020b).

The emphasis is placed on breaking down physical barriers within school structures and establishing stronger connections with local communities starting from the school. The school's open spaces are also decisive to contribute to the development of healthier cities and foster the well-being of children as we can see in the case of urban areas that are implementing creative interventions on streets in areas surrounding schools (Cannella et al., 2022). These initiatives, such as the global movement promoting streets for kids and school streets originating in Europe (Clarke, 2022), distinguishes itself for its advocacy of sustainable mobility (Shbeeb., & Awad, 2013) and the cultivation of children's autonomy in urban environments (Tonucci, 2020; Thomas et al., 2022). In this framework, the literature highlights how further public spaces can be created by implementing innovative urban design strategies, starting with the creation of pedestrian areas near schools (Alberti et al., 2019). This not only improves the overall quality of public spaces, but also involves the configuration of new school squares that meet neighbourhood needs (Gaglione & Ayiine-Etigo, 2022; Pileri et al., 2022). In parallel, schoolyards can become increasingly open and permeable elements within urban landscapes (Fianchini, 2017; Palestino et al., 2020), designed to be used beyond school hours and thus implementing the network of public spaces in a healthy way (Adelmann & Davis, 2015; Masiani, 2020). Numerous authors concur that the adoption of environmentally friendly strategies, incorporating nature-based solutions in the design of schoolyards (Dessì & Fianchini, 2021; Van den Bogerd et al., 2023), is crucial for the preservation of biodiversity and the ongoing battle against climate change (Doswald & Osti, 2011). This aids in constructing a more sustainable and resilient environment capable of adapting to the challenges presented by climate change while facilitating the gradual restoration of degraded ecosystems over time (Bohnert et al., 2022; Fratini, 2023). A noteworthy advantage of employing nature-based solutions in schoolyards lies in mitigating urban heat island effects (Rivera Gomez et al., 2019). As known, green and wooded spaces, as opposed to paved surfaces, absorb less heat, providing relief from summer heatwaves and contributing to a reduction in outdoor temperature (Barò et al., 2022; Ceci M. et al. 2023). This underscores the significance of championing an integrated approach to projects, with a focus on closing natural cycles and enhancing sustainability through the incorporation of specific technologies (Kabisch et al., 2017).

The literature review accentuates how schools could contribute significantly to the creation of a distinct, cohesive, and deeply rooted welfare system, both in terms of physical infrastructure and cultural and social aspects (Patti, 2021; Vassallo et al., 2022). The dynamic catalytic potential of school open spaces in propelling a local, just, and green transition emerges, producing positive impacts on the environment and also on education, health, and social cohesion.

The literature underscores that effectuating a green transition in school open spaces necessitates not only addressing strategic concerns but also instigating a shift in governance principles (Pasqui, 2019). This entails the adoption of a participatory methodology and the embracement of a transversal, transdisciplinary, and place-based approach (Vanos & Pfautsch, 2023). The transformation of school open spaces into green environments is based on a growing body of literature that shows the importance of student involvement in the design (Derr & Rigolon, 2017) and management of the same to instil a sense of responsibility towards the spaces shared, promoting inclusiveness and community (Lanza et al., 2021; Vicente et al., 2023). Moreover, for the implementation of effective strategies and the attainment of far-reaching results in these projects, it is essential to adopt a transversal or multilevel approach in public policies that demands significant stakeholder engagement and substantial financial resources. Another critical aspect involves embracing trans-sectoral, allowing for the incorporation of a wide range of perspectives and addressing diverse needs (Lamacchia et al., 2021; Bricocoli et al., 2022).

3. Methodology

As mentioned above, the aim of this paper is to assess how school open spaces (e.g., courtyards, gardens, school-proximity spaces, areas pertaining to school activities) can contribute to a more effective, place-based and just transition, highlighting in which areas they can be more strategic and generate positive effects and which are, on the contrary, areas for improvement. To verify this hypothesis, we have developed a methodology composed of the following steps:

1) selection of the main principal European policies developed from 2019 onwards to implement a place-based approach to the EGD at the urban scale;

2) identification and definition, within the framework of the abovementioned European policies, of four strategic issues and four governance principle that are, in our interpretation, fundamental to localise the EGD;

3) collection of twenty-five best practices related to regeneration projects for schoolyard and school-proximity spaces in Europe, selected through desk research[1]. Our selection favoured relevant projects that implemented a systematic approach (intervening in several schools in the same city) or complex projects with strong partnerships. Most of the examined experiences began after 2019, having taken as a starting point the publication of the EGD. A few experiments that started prior to publication of the EGD have also been included, having gained more impetus from the publication of the EGD onwards;

4) description of the twenty-five best practices according to an analysis grid that includes starting date, intervention scale (schoolyard or school-proximity spaces), how the initiative was generated, main objectives pursued and physical outcomes achieved through the project implementation (tab. 1);

5) analysis of each best practice for its correspondence to the abovementioned strategic issues and governance principles, illustrated in tab. 2 (that includes the field 'scale of intervention' due to its relevance). According to various studies that analysed projects and plans in the field of climate adaptation and ecological transition (De Luca et al. 2021; Geneletti & Zardo 2016), we applied a qualitative content analysis to read and assess best practices. We opted for this analytical approach and not for applying a methodology with rigidly defined criteria (e.g. multicriteria analysis or keyword frequency-based method) also given the great heterogeneity of both projects and the documentary materials traceable for their study, partly represented by scientific literature and partly by grey literature.

6) Illustration of the results of this analysis by means of two radar graphs (fig. 1), useful for evaluating quantitatively the fields of the transition processes most affected by the projects.

7) Qualitative description of the results obtained from the analysis.

---

[1] The research on European best practices was conducted within "FIABA. Firenze impara ad abitare con gli adolescenti", a project carried out by the Department of Architecture of the University of Florence within the actions developed as official partner of the New European Bauhaus programme (line "Educating next generation, growing a new living"). The scientific coordination of both FIABA and the NEB line "Educating next generation" is by Maria Rita Gisotti. The research group of FIABA is composed of Maria Rita Gisotti, Benedetta Masiani (author of the research on best practices), Rosa Romano (DIDA-Unifi) and Antonia Sore (DIDA-Unifi).

4. Results

4.1 Localising the EGD in European policies

In recent years, European policies have developed a vast field of work to implement a place-based approach to the EGD. In 2020, the European Committee of the Regions (CoR) launched the Green Deal Going Local (GDGL) programme to place cities and regions at the heart of the EU's transition and give greater recognition to Local and Regional Authorities (LRAs), given their legal competences and proximity to people in the process of transition towards climate-neutrality (European Committee of the Regions, 2021) and the fact that "they implement 70% of climate mitigation measures, 90% of climate adaptation policies and 65% of UN Sustainable Development Goals (SDGs)" (European Committee of the Region et al., 2022, p. 18). The GDGL policy document identifies eleven policy areas, largely similar to those of the EGD. Among these, the most strategic areas for planning and design at the urban scale are 'Sustainable transport', 'Preserving Europe's natural capital', 'Transition to a circular economy', 'A zero-pollution Europe', 'From farm to fork' and 'Clean, reliable and affordable energy'.

Another important initiative is the "New Leipzig Charter. The transformative power of cities for the common good" (NLC), adopted at the Informal Ministerial Meetings on Urban Matters in November 2020 (European Commission, 2020b). It aims to update the 2007 Leipzig Charter, which promoted integrated and sustainable urban development with respect to urgent global challenges. The NLC states the importance of implementing policies in European cities on three spatial levels: neighbourhoods, local authorities and the so-called 'functional area' (as stated in the Territorial Agenda 2030), i.e., the regional or metropolitan scale.

Moreover, it stresses the importance of developing three specific dimensions: the just city, green city, and productive city. The latter is based on a diversified, digital, and low-carbon economy. Finally, the NLC proposes five key principles of good urban governance, namely (1) placing common good at the core of urban policy, (2) practising an integrated approach, (3) incentivising participation and co-creation, (4) implementing multi-level governance and (5) pursuing the place-based approach and endogenous development model.

In 2021, the European Commission's 100 Intelligent Cities Challenge (ICC) launched the Local Green Deal programme (LGD), "a local tailor-made action plan to accelerate and scale-up a city's green transition. It builds on and joins up existing strategies (e.g., sustainable energy and climate action plans, circular economy plans, resilience, or economic development plans) legislation, market and financial incentives into a coherent approach to advance the EU Green Deal locally" (European Commission, 2021a, p. 4).

The key principles of the LGD that are most relevant to urban planning and design with spatial impact are: (1) "build on what is already there", using municipal governance to network and enhance existing sustainability strategies and policies; (2) develop integrated and cooperative processes both 'vertically' (between EU, national and regional policy development processes) and 'horizontally' (between municipal administrative sectors); (3) encourage a collaborative approach between stakeholders; (4) develop sustainable technological solutions to support the transition. Another flagship initiative is the New European Bauhaus (NEB), launched in 2021 by the Presidency of the EU Commission to accompany the EGD with a large, collective, and interactive training project regarding the ecological and digital transition (European Commission, 2021b). The NEB aims to encourage "a new lifestyle where sustainability matches style, thus accelerating the green transition in various sectors of our economy" (European Commission, 2021b, p. 2).

The NEB, which has a community-based perspective, is essentially a networking and communication programme involving citizens in co-design processes based on three 'core values' - beautiful, sustainable, and together - which respectively refer to aesthetic experiences, ecological ethics, and inclusion.

The NEB offers a project methodology to all institutional and non-institutional stakeholders taking part in the transition process based on the adoption of three 'key principles', i.e., being multilevel (from global to local), participatory and transdisciplinary (New European Bauhaus, 2022).

4.2 Strategic issues and governance principles for localising the EGD

From the study of the above-mentioned policies and of the related debate (Abdullah, 2021b; C40 Cities, 2020; Fernàndez De Losada & Abdullah, 2020; OECD, 2020a; Rosado García et al. 2021) we assumed as the key strategic issues for a local and just transition the following:

1. sustainable mobility (ranging from public transport systems to cycling and walking paths);
2. new public spaces (returning spaces to people and nature, rethinking and reclaiming streets and creating liveable local communities);
3. greening (actions for urban forestry, restoration of degraded ecosystems and use of nature-based solutions to both preserve biodiversity and fight climate change);
4. circularity (closure of natural cycles, creation of urban gardens for proximity food chains and production-consumption-reuse of materials);

Similarly, we assumed as the key governance principles for a local and just transition the following:

1. participatory approach (engaging the widest possible range of actors, particularly the most vulnerable population groups, in co-design and co-creation processes aimed at raising awareness of the transition);
2. transcalar approach (supporting multi-level and multi-stakeholder cooperation and involving all governmental levels, from local and regional/metropolitan to national and European, particularly regarding funding opportunities);
3. trans-sectoral approach (pursuing integration between areas of intervention of public bodies at the same scale and related disciplines);
4. local-based approach (basing projects on specificities of natural and built environments and on social, economic, cultural, and historical aspects of local contexts).

4.3 Best practices in the regeneration of school open spaces

The study meticulously investigates twenty-five best practices associated with interventions in school courtyards or adjacent spaces. The cases are presented in chronological order and are thoughtfully described (tab. 1), emphasizing crucial elements for their comprehension. They specify the scale of intervention, type of initiative, primary goals, and implementations. This tabular compilation presents the case studies and forms the bedrock of the study's examination, providing a structured overview of the interventions under consideration.

	Best practices 2015
	1. *Cortili in azione, Turin, Italy*
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	Local initiative promoted by Architects Without Frontiers Piemonte, Sheldon Studio with the support of Compagnia di San Paolo Foundation. It brings together several schools in and around Turin in the common need to retrain the school grounds.
Main goals	— Enhancing the schoolyard as a fundamental space in which the pupil becomes a citizen. — Returning a beautiful and liveable place to the school community. — Connecting the courtyard, a community and meeting space, with the neighbourhood.
Project implementation	Yes. The first implementation was in 2015 and in the Sabin schoolyard. Other implementations are ongoing to date.
	Best practices 2016
	2. **Amsterdam Impuls Schoolpleinen (AIS), Amsterdam, Netherlands**
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	A municipality-led initiative developed between 2016 and 2024 aimed at (re)designing and greening approximately 85 schools and city playgrounds.
Main goals	— Giving an impulse to primary education schools across the city to (re)design and green their playground. Providing monetary support and making the playground as publicly open as possible and including it in the school's educational vision.
Project implementation	Yes. In the period 2016– 2018, the municipality provided a budget of €3 mln and subsidies were granted to 70 different schools. For the 2019−2024 period, the municipality has made available a budget of €5.4 mln, and subsidies will be provided to 15 schools per year.
	3. ***Oasi Verdi dalla scuola al quartiere, Rome, Italy***
Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Multidisciplinary project of the University of Rome Sapienza titled "Municipio II Green Network", involving a very wide network of actors.
Main goals	— Promoting urban, social and cultural change for the San Lorenzo neighbourhood in line with Cop21 in Paris and UN-Habitat III. — Implementing micro projects of immediate use (the Oasis) to make climate change tangible. — Actively involve the local community in an eco-artistic urban regeneration project with the aim of developing participation, conviviality, belonging to places and a sense of identity.
Project implementation	Yes. Oases were planned and implemented between 2016 and 2020 in the San Lorenzo neighbourhood.

(...)

	Best practices 2017
	4. Cuidados en entornos escolares, Madrid, Spain
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	The project stems from the collaboration of several municipal departments and crosses specific plans and strategies, namely: the Madrid Urban Regeneration Strategy of the Department of Urban Planning, the Air Quality Climate Change Plan of the Department of Environment, and the Public Health Program of the City of Madrid. The project targets and involves 3 educational institutions.
Main goals	— Creating a new school ground model by transforming the schoolyards of nursery and primary public schools through a participatory process. — Developing a preliminary intervention strategy on the city's schoolyards aimed at the identification of environmental resources and play areas available in and around all Madrid schools. — Carrying out the transformation of three schoolyards as pilot projects in order to promote healthy habits, integration with the neighbourhood and to improve adaptation to the impacts of climate change. — Developing a methodological guide for intervention in and around schools.
Project implementation	Yes. The project was implemented between 2017 and 2019 leading to the redevelopment of 3 schoolyards in 3 institutions in Madrid.
	5. Metamorphosis project, Bolzano, Italy
Intervention Scale	Proximity of educational institutions (PEI)
Initiative	This project received funding from the European Union's Horizon2020 research and innovation programme under grant agreement. The Metamorphosis project grew out of a partnership among 12 members including 7 cities: Alba Iulia (Ro), Graz (AT), Meran (IT), Munich (DE), Southampton (Uk), Tilburg (NL), and Zurich (CH).
Main goals	— Transforming neighbourhoods in a child-friendly way to increase the quality of life for all citizens. — Reducing the use of private cars for taking children to school. — Enabling children to go to school by foot or by bike.
Project implementation	Yes. The project was implemented between June 2017 and May 2020.
	6. School Streets Hackney, London, UK
Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Project sponsored by the municipal administration.
Main goals	— Promoting and encouraging students to walk and bicycle to school safely. — Reducing traffic outside schools. — Improving air quality through urban greening interventions.
Project implementation	Yes. The pilot project started in 2017 with five schools and was completed in 2021. In addition, 40 more School Streets were created throughout the district..
	Best practices 2019
	7. Climate shelters project "Refugis Climatics", Barcelona, Spain
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	The City of Barcelona has received funding from Urban Innovation Action (UIA), a program of the European Commission, for the project "Adapting schools to climate change through green, blue and grey".
Main goals	— Converting 11 schoolyards into climate shelters. — Opening school spaces to citizenship during extracurricular hours. — Raising awareness of climate change issues. — Evaluating the impact achieved on environmental, health, well-being parameters, etc.
Project implementation	Yes. Between 2019 and 2022 a total of 2.213sqm of new shaded areas were created in the 11 schools involved. 74 trees were planted and 26 new water points were installed.
	8. Green Blue Schoolyards, Rotterdam, Netherlands
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	Green Blue Schoolyards is a subsidy and technical support programme by the city of Rotterdam for 2019 – 2022 that involves at present 6 schools.
Main goals	— Supporting schools to transform their outdoor spaces into natural play areas for outdoor educational projects and community use. — Increasing the number of green spaces (such as parks) and blue spaces (such as lakes, canals, or riverbanks) starting with the redevelopment of schoolyards.
Project implementation	Yes. The programme focused on 6 schools in areas with fewer public green spaces and higher socioeconomic vulnerabilities, selected to cover different areas of the city. Further scale will be assessed after this phase of the programme is completed.
	9. Il Giardino che vorremmo, Florence, Italy
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	The project is part of CSS-Sustainable School Communities, a participatory path involving secondary schools in the Metropolitan City of Florence. "Il giardino che vorremmo" was coordinated by the Pratolino LDA in collaboration with DIDA - Department of Architecture of the University of Florence, the Carabinieri Forestali (Vallombrosa Biodiversity Unit) and with educators from the META Cooperative.
Main goals	— Developing skills of responsible participation in environmental caring. — Identifying strategies and actions aimed at implementing "good practices for sustainability" by involving the school community.
Project implementation	No. The project was mainly an open-air educational and research project. Students could be eventually involved in the implementation phase through self-construction workshops.
	10. Oasis project, Paris, France
Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	The Oasis project stems from the Paris Resilience Strategy adopted by the Paris Council and is supported by the Caue (Conseil d'Architecture, d'Urbanisme et de l'Environnement). The initiative is the winner of a European call for "Urban Innovative Actions" aimed specifically at the redevelopment of 10 schoolyards by the summer of 2020.
Main goals	— Converting schoolyards into climate shelters by reducing the heat island effect and providing a range of possible technological solutions. — Outlining a methodology and guidelines for upgrading schoolyards based on the principles of bioclimatic.
Project implementation	Yes. Several implementations from the 2019-2020 school year with the monitoring of impacts on microclimate.
	(...)
	11. School Streets, Hoogstraten, Belgium

Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Initiative promoted by the Municipal Administration. With this project the municipality won the Flemish Road Safety Award 2019.
Main goals	— -Redesigning the area around 8 schools. — Closing to motorised traffic a street in front of the entrance of the school twice a day. — Looking at the routes to school with the eyes of a child, actively involving children, but also parents, in devising and implementing measures.
Project implementation	Yes. The 8 schools involved have implemented the proposal, and the administration's intention is to extend it to other schools.

12. **_School Streets, The Hague, Netherlands_**

Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Project sponsored by the municipal administration
Main goals	Reducing traffic-related air pollution and improving road safety
Project implementation	Yes. In 2019, the city organised its first School Road experiment and in one year managed to implement 15 more. Some of the participating schools have requested that the measures become permanent.

Best practices 2020

13. **_Canopy Plan, Strasbourg, France_**

Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	This project is financed via the budget of the city of Strasbourg with the mobilisation of external funding such as that of the Rhine-Meuse water agency within the framework of the territorial water-climate contract.
Main goals	— Demineralising and greening courtyards to adapt to climate change. — Rethinking the educational value of school courtyards. — Substantially contributing to the fight against global warming and enabling the schoolyards educational function to be rethought.
Project implementation	In progress. Experimental demineralisation interventions were initiated in the first 3 schools from autumn 2020. In 2021, 2 childcare facilities and 7 schoolyards were reconfigured. The program for the 2022 is to carry out implementations in 8 schoolyards. From 2023 onwards, the aim will be to intensify the interventions.

14. **_CLEVER Cities Project, Hamburg, Germany_**

Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	The project was developed in the framework of the European-funded H2020 and includes the District Office of Hamburg-Harburg (DHH), the urban development agency, and three scientific partners. Three different focus topics have been defined for the project area: (1) a green corridor, (2) green roofs and façade and rainwater management, (3) and green schoolyards.
Main goals	— Fostering the redesign of schoolyards located in the project area using Nature-Based Solutions. — Planning interventions including the so-called researchers' garden that combines the curriculum with gardening and outdoor activities and the realisation of aquaponics.
Project implementation	Yes. Originally, the schools planned to turn an existing area of the schoolyard into a school garden and outdoor classroom. However, the neighbourhood is currently undergoing demographic changes that are increasing demand for primary schools. As a result, the local school authority has instead proposed enlarging both schools and restructuring their schoolyards. Some interventions have been implemented between 2021 and 2022.

15. **_Contract d'écoles, Bruxelles, Belgium_**

Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Initiative part of the Regional Plan for Sustainable Development (PRDD) and Strategy 2025 of the Brussels-Capital Region
Main goals	— Increasing school-city interaction by activating collaborations with sociocultural entities in the neighbourhood. — Enriching the cultural offer and neighbourhood sports facilities through the sharing of school spaces. — Enhancing youth groups' autonomy, and spirit of initiative, and improving social integration. — Improving the usability of public space and underutilised green areas and reducing the spatial density of the urban fabric.
Project implementation	In progress. In 2019 the Brussels-Capital Region government selected 4 school contracts for the period 2020-2024. A program of action and an investment plan for the implementations were developed.

16. **_Poli Innovativi Zerosei, Bari, Italy_**

Intervention Scale	Courtyards of educational institutions (CEI)
Initiative	Regional initiative to foster the implementation of specific interventions on 0-6 Poles. The Regional Education and University Section, with the support of ARTI (Agenzia Regionale per la Tecnologia e l'Innovazione della Puglia), has initiated a collaboration with the municipalities of Altamura, Bari and Capurso to carry out three design competitions for the implementation of innovative 0-6 Poles.
Main goals	— Proposing the role of childhood education services as urban equipment of high social, aggregative and functional value. — -Promoting 0-6 Poles as polarities for education aiming to work-life balance. — Clarifying the characteristics of childcare poles in relation to new pedagogical directions and the nature of contexts. — Creating a toolbox for regional regulatory activity in the context of 0-6 Poles.
Project implementation	No. These are design competitions. Action is planned to valorize the outcomes through a conference, an exhibition and the publication in a special volume of all the entries of the participating projects.

17. **_Streets for kids Gjon Buzuku Play Street, Tirana, Albania_**

Intervention Scale	Proximity of educational institutions (PEI)
Initiative	Program of NACTO (National Association of City Transportation Officials) and GDCI (Global Designing Cities Initiative). It involves several cities all over the world, Tirana is the only European city.
Main goals	— Ensuring safe mobility with an emphasis on accessibility for children and their caregivers. — Creating structural changes in the city's streets. — Developing a methodology to systematise and transform these individual initiatives into a comprehensive School Streets program.
Project implementation	Yes. The pilot initiative was implemented in 2020, then expanded to 10 other trials.

(...)

	18.	***Torino Mobility Lab, Turin, Italy***
Intervention Scale		Proximity of educational institutions (PEI)
Initiative		Initiative part of the national experimental home-to-work and home-to-school sustainable mobility program. Many of the experiments involve the proximity space of educational institutions.
Main goals		— Reducing emissions, vehicular transit, and architectural barriers. — Experimenting with integrated mobility and public space planning, near schools and at the neighbourhood scale. — Promoting a sustainable mobility intervention model capable of combining needs analysis and "collaborative design" pathways.
Project implementation		Yes. Numerous interventions in schools in the San Salvario district of Turin starting in June 2020.
	19.	***Protegim les escoles, Barcelona, Spain***
Intervention Scale		Proximity of educational institutions (PEI)
Initiative		Project sponsored by Barcelona City Council, Gobierno de los Comunes and the Socialist Party of Catalonia.
Main goals		— Creating a plaza in front of 200 schools in the city. — Shortening pollution and noise related to vehicular traffic by reducing the number and speed of lanes. — Increasing safety in proximity to schools. — Expanding recreational and green areas by incorporating new street furniture and creating areas for spontaneous play.
Project implementation		Yes. The implementation process started in 2020 and its completion is scheduled in 2023.
		Best practices 2021
	20.	***Design your schoolyard, Antalya, Turkey***
Intervention Scale		Courtyards of educational institutions (CEI)
Initiative		The project is part of a participatory process with the fund/support of ITU Housing UYGAR Research Center and Antalya Bilim University and aims to develop a methodology to redesign schoolyards of Antalya Muratpaşa study area, starting from Antalya Muratpaşa Dumlupınar Middle School.
Main goals		— Strengthening the students on sustainable practices and supporting them in imagining and designing their school environment. — Enhancing the role of the courtyard as a learning space particularly with respect to environmental sustainability issues through the practice of informal education. — Raising awareness of multi-disciplinary design of courtyards including sustainable design, alternative learning styles, education theories.
Project implementation		No. The project consists of online and face-to-face workshops that began in January 2021 and concluded with a participatory project in July 2021.
	21.	***Le scuole Verdi di Lucca, Lucca, Italy***
Intervention Scale		Courtyards of educational institutions (CEI)
Initiative		Project developed under the "Experimental Program of Interventions for Urban Climate Change Adaptation," funded by the Ministry of Ecological Transition (General Directorate for Climate, Energy and Air), involves 18 schools and 1 public park.
Main goals		The aim is to reduce climate change effects by protecting outdoor spaces, depaving some surfaces and creating green curtains that increase shading on horizontal and vertical surfaces. The project aims to facilitate outdoor teaching and enhance students' comprehension of natural cycles.
Project implementation		In progress. Interventions in the 18 schools and public parks are in progress.
	22.	***Spazio cantiere, Bologna, Italy***
Intervention Scale		Proximity of educational institutions (PEI)
Initiative		The initiative is promoted by the Urban Innovation Foundation (FIU) and is part of the City of Bologna's Plan for Emergency Pedestrianism.
Main goals		— Pedestrianizing spaces near school entrances. — Enhancing the school surroundings as a place for socialising. — Increasing pedestrian safety in the proximity of schools. — Implementing temporary "tactical" interventions that can function as a test before final implementation.
Project implementation		Yes. The first realisation is 2022 in Via Procaccini which is followed by several other realisations, some of which are currently in progress.
		Best practices 2022
	23.	***Cortile Mondo, nature becomes a school, Turin, Italy***
Intervention Scale		Courtyards of educational institutions (CEI)
Initiative		Project developed as part of the BottomUp! initiative for urban regeneration and social inclusion conceived by the Foundation for Architecture of Torino.
Main goals		— Opening the school to collaborate with citizens in the school and area community. — Seizing the opportunity of a school green area and making it a public space. — Applying outdoor education and transforming the garden into a place
Project implementation		Yes. The project in the courtyard of the Chagall School in the Aurora neighbourhood was realised in 2022.
	24.	**FIABA (Firenze impara ad abitare con gli adolescenti: le scuole come living lab per la città in transizione), Florence, Italy**
Intervention Scale		Courtyards of educational institutions (CEI)
Initiative		The project was conceived and coordinated by DIDA - Department of Architecture of the University of Florence, with the involvement of the Direzione Edilizia of the Metropolitan City of Florence, the ITT Marco Polo and Liceo scientifico Castelnuovo (high schools in Florence). FIABA was funded by the Education and Training Sector of Fondazione Cassa di Risparmio di Firenze.
Main goals		— Co-designing the transition city with kids, focusing on combating climate change, sustainable mobility and accessibility, and caring for collective places. — Experimenting with the transition city through small concrete interventions in schools that show improvements in schools and neighbourhood liveability. — Creating a new relationship between school and city by experimenting with the opening of redeveloped gardens and courtyards to citizenship, according to appropriately arranged times and modalities.
Project implementation		In progress. The project was completed in February 2023 and is scheduled to implement some of the proposed interventions from November 2023.

(...)

Best practices 2023		
	25.	***Piazze Aperte per ogni scuola Milan, Italy***
Intervention Scale		Proximity of educational institutions (PEI)
Initiative		Program launched as a new phase of the Piazze Aperte (a project of the City of Milan, developed by the Agenzia Mobilità Ambiente Territorio-AMAT), in collaboration with Bloomberg Associates, National Association of City Transportation Officials (NACTO) and Global Designing Cities Initiatives.
Main goals		— Increasing public space and pedestrian areas available to young children in front of schools. — Returning a square to each neighbourhood, conceived as a public space to meet and socialise. — Involving residents in neighbourhood-scale urban regeneration processes through "tactical" spatial interventions and short-term, low-cost and scalable policies.
Project implementation		In progress. In February 2023, 87 proposals for action were collected and will be evaluated in the coming months.

Tab. 1 European best practices from 2015 to 2023

4.4 The role of school open spaces in localising the EGD

At this point of our study every good practice was examined in relation to the treatment of the four strategic issues and of the four governance principles that emerged from our interpretation of the European policies for localising the EGD. We have retained the indication of the scale of intervention for its relevance. Table 2 presents the results of this analysis. The results of the analysis are also presented quantitatively in the two radar charts below. With regards to the strategic issues, we can see that the most present in the twenty-five best practices were new public spaces (22) and greening (18), followed by sustainable mobility (12) and then circularity (10). Regarding the governance principles, the local-based approach was the most adopted (20), followed closely by the participatory approach (19) and then the transcalar and trans-scalar approaches (12 each).
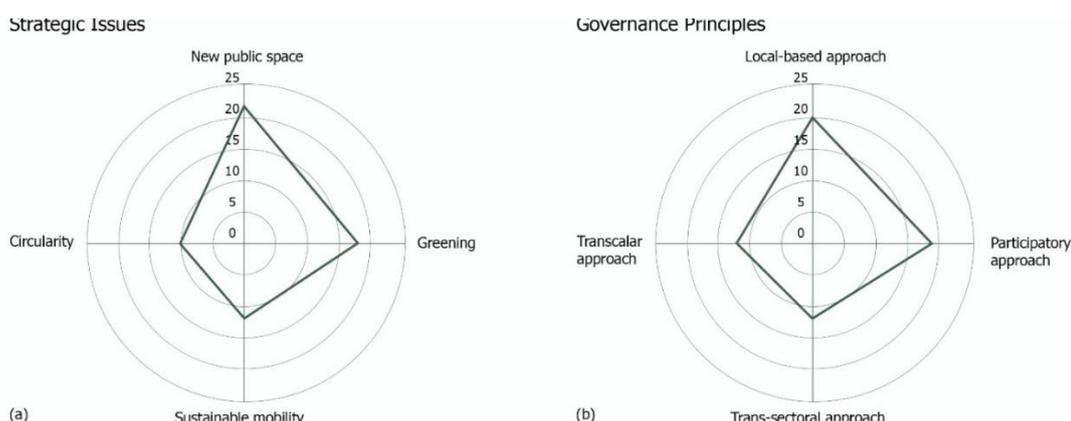
Fig.1 (a) Correspondence between the twenty-five best practices and strategic issues and (b) correspondence between the twenty-five best practices and governance principles (authors elaboration)

We will now give a qualitative interpretation of these results.

Sustainable mobility (12 projects) was mainly dealt with in relation to school-proximity interventions and was only marginally considered in schoolyard projects. A recurring solution for addressing mobility and safety challenges in areas near schools was the implementation of 'school streets' observed in locations such as Hackney, Hoogstraten, Gjon Buzuku, and The Hague (Giezen & Pellerey, 2021). Some initiatives experimented with integrated planning of mobility and public space, promoting a sustainable model that combines needs analysis and 'collaborative design' as seen in the *Turin Mobility Lab* (Renzoni et al., 2021). Interesting cross-cutting experiments, such as those in Madrid (*Cuidados en entornos escolares*), showcased a more systemic vision and heightened awareness of sustainable mobility.

Concerning projects creating new public spaces (22), several experiments proposed squares in front of schools, as in Milan (*Piazze Aperte)* (Salvador, 2023; Alberti & Radicchi, 2022) and Bologna (*Cantiere Spazio*) (Longo et al., 2022) or similar spaces, as in Barcelona (*Protegim les escoles*). Many started as temporary proposals, based on tactical urban planning solutions, eventually becoming permanent changes (Lydon & Garcia, 2015). The creation of new public spaces was also addressed in most schoolyard experiments, such as in Turin (*Cortili in azione*). Cross-cutting experiences, as in Brussels (*Contrat école*), improved school surroundings, enhancing public space usability and creating inclusive spaces for the entire community (Cartes Leal, 2015).

Best pract.	Strategic issues				Governance principles				Int. scale
	Sustainable mobility	New public spaces	Greening	Circularity	Participatory approach	Transcalar approach	Trans-sectoral approach	Local-based approach	
1.		●	●		●			●	(CEI)
2.		●	●				●	●	(CEI)
3.		●	●	●	●			●	(PEI)
4.	●	●	●	●	●	●	●	●	(CEI)
5.	●	●			●	●			(PEI)
6.	●	●			●			●	(PEI)
7.		●	●	●	●	●	●	●	(CEI)
8.		●	●	●	●			●	(CEI)
9.			●	●	●			●	(CEI)
10.		●	●	●	●	●	●	●	(CEI)
11.	●	●			●			●	(PEI)
12.	●	●			●			●	(PEI)
13.			●	●		●			(CEI)
14.		●	●	●		●	●		(CEI)
15.	●	●	●		●	●	●	●	(PEI)
16.		●	●	●	●	●		●	(CEI)
17.	●	●			●	●		●	(PEI)
18.	●	●			●		●	●	(PEI)
19.	●	●	●				●		(PEI)
20.		●	●	●	●		●	●	(CEI)
21.			●			●			(CEI)
22.	●	●	●		●		●	●	(PEI)
23.		●	●		●			●	(CEI)
24.	●	●	●		●		●	●	(CEI)
25.	●	●			●	●		●	(PEI)

Tab.2 Table crossing best practices with strategic issues and governance principles for a local and just transition

Greening was a significant aspect in the analysis (18 projects), developed differently at the two intervention scales. For school-proximity spaces, some projects adopted greening strategies for urban forestation or the transformation of disused areas into multifunctional green spaces, such as in Rome (*Oasi verdi dalla scuola al quartiere*) (Fratini, 2020). In schoolyards, projects like *Cortile Mondo, la natura si fa Scuola*, and *Amsterdam Impuls Schoolpleinen* enhanced environmental quality with natural elements like trees, plants, and green areas, contributing to biodiversity. The use of Nature-based solutions proved beneficial for both the environment and the local community. Strasbourg (*Canopy Plan*), Paris (*Oasis Project*), Barcelona (*Climate Shelter Project*), Madrid (*Cuidados en entornos escolares*), and Rotterdam *(Green Blue Schoolyards*) adopted solutions to combat climate change, preserve biodiversity, and restore natural resources. Schoolyard spaces were re-envisioned as climate shelters, promoting a healthier environment and resource circularity. Circularity, when it was present (10 projects), was related to greening. This was particularly true regarding schoolyard spaces (9 projects) and much less so regarding school-proximity spaces, as the latter are complex interventions that require a lot of maintenance. Notably, circular practices played a crucial role in sustainable initiatives, such as urban gardens and responsible water resource use.

Participation methodology was applied in most case studies at both scales (19 projects), even though the participatory processes were different. The Bologna experience (*Spazio Cantiere*) was distinguished by the rigorous methodology it applied to involve citizens in school-proximity spaces. Two of the most successful schoolyard experiments in terms of participation are the Antalya case (*Design your schoolyard*) (Sabir Onat & Yirmibesoglu, 2023) and the Florence project (*Fiaba*) (Gisotti & Masiani, 2023). The former is distinguished by its integrated and participatory co-design methodology. The latter stands out for its robust intergenerational approach, involving high school and university students along with teachers in a participatory process focused on the application of nature-based solutions (NBS) in project development. Approximately half of the projects (12) used a transcalar or multilevel approach to public policy. These are characterized by systematic interventions and a large output (developed over several years), due to the substantial number of stakeholders involved and considerable amount of funding allocated. These projects were either on a national scale, as in Lucca (*Le scuole verdi*), or an international scale, as in Hamburg (*CLEVER Cities Project*) and Bolzano (*Metamorphosis Project*). The latter two were Horizon programmes involving a broad partnership, variety of stakeholders and experts, which are relevant for implementation of NBS in urban contexts (Arlati et al., 2021). Trans-sectoral approach was identified in projects (12) affecting a variety of public action sectors and numerous disciplinary competences including technical, design, and pedagogical skills. Often these projects worked on at least three of the strategic issues as in Paris

(*Oasis Project*) and Barcelona (*Climate Shelter Project*) and were also unsurprisingly Urban Innovative Actions (UIA). Finally, many the experiences we selected (20 projects) had adopted a local-based approach to their design. Even if the final verification of this aspect can only be ascertained once the projects are completed, most of the proposed actions were based on place specificities, giving priority to "building on what is already there" principle (LGD) and creating positive transformations from existing resources, which are understood as opportunities offered by the physical space or social and economic characteristics of the context. Among the most notable experiments, we wish to point out the *Poli Innovativi Zerosei* project for the municipalities of Bari, which took place under the auspices of a public tender (Annese et al., 2022) and the Florence project (*Il giardino che vorremmo*) (Arnetoli et al., 2022).

5. Discussion

In this study, we analysed the potential of school open space regeneration projects to trigger and/or support the implementation of EGD at the local scale, to pursue a place-based ecological transition, therefore more effective and just. To this end, we have taken on four strategic issues and four governance principles stemming from the study of European policies for localising the EGD and have verified their treatment in twenty-five good practices at European level. Starting from the results described above, we now present some possible explanations for these outcomes with the aim of identifying three points on which to act in the field of urban regeneration policies related to transition.

We have seen that the creation of new public space and greening are treated very frequently in regeneration projects that act on school open spaces: actually schools have been created as public facilities in the city, their presence throughout urban fabrics and neighbourhoods is continuous and systematic and for this reason they can be intervention sites for the widespread regeneration of cities and can generate climate shelters, green infrastructures and new public spaces that greatly improve the whole urban environment.

Starting from the rich heritage represented by these collective equipment (Bricocoli et al., 2022; Renzoni, 2019; Marchigiani & Bonfantini, 2022) it is possible to structure widespread ecological and morphological 'infiltration' processes (Marot & Catsaros, 2020) rather than working in the direction of large projects concentrated in specific urban sectors that produce gentrification and inequalities. In this sense, operating on schools can create better and greater access to urban public space - redeveloped also in an ecological key - favouring a place-based transition, for this reason more just (Klinenberg, 2018). However, we must not forget that the activation of these projects is far from easy. Sometimes they are macro-projects involving many schools that were supported by complex multi-level governance operations and substantial funding (e.g., the UIA in Paris and Barcelona). Often, they arise from isolated initiatives of local administrators, enlightened school leaders, researchers engaged on the subject, parents' associations. Although these virtuous experiences are more and more numerous, they maintain an episodic character, they are distributed in a scattered way concentrating, as a rule, in districts or urban contexts vital, well equipped from the point of view of social capital, of available resources and technical expertise (such as the twenty-five good practices we have examined).

Passively supporting these regeneration processes entails the risk of producing an increase in disparities and inequalities and phenomena of gentrification (Barò et al., 2022). Moreover, while most of the twenty-five good practices have been completed, it is also true that there are several minor projects on school open spaces that are not implemented, not infrequently because of the difficulty of moving from the preliminary to the technical and economic feasibility. This fuels frustration in school communities and citizens who have taken part in co-design processes of these spaces, representing a boomerang for the participatory approach so much applied in this type of experience. To begin to face these critical issues, a first fundamental point is to operate a firm and systematic political and financial investment in local authorities (Ahn et al., 2023) to activate the creation of school regeneration networks in the city and in every urban context, increasing the staff of the public administrations responsible for the development of these projects and tracing the resources for the implementation of interventions.

Only by starting this restructuring is it possible to imagine a change of direction that would allow to move from the episodicity of the good practices that we have illustrated to the systematic nature of a real public policy. Concretely this new attention to the integrated regeneration between school and city could be inserted as a working theme in the tools

of urban and metropolitan strategic planning, to gain relevance as a piece of a shared vision for the city of the future on which to start building a confrontation between stakeholders.

A second fundamental aspect to act on is the development of intersectoriality. We have seen that, among the principles of governance, the transcalar approach and the trans-sectoral approach are applied in just under half of the projects and appear as the biggest challenges to be faced in this field. It is about encouraging and supporting integrated projects both vertically (between different levels of public administration) and horizontally (between areas of intervention of the same public administration) (Papa & Sachs, 2021).

At this end, it would be desirable to create a sort of cross-sectoral steering committee that integrates the sectors and competences of urban planning, education, and school facility management.

This is currently a crucial point, as massive transformations of cities are taking place through Next Generation EU funding. This steering committee could coordinate interventions that would otherwise be conceived and implemented haphazardly and would fail to use existing synergies that need to be formalised and supported. A strengthening of the intersectoriality could also lead to a greater integration of strategic issues less treated in the projects on school open spaces: this is the case of sustainable mobility and circularity that not only concern a larger scale but also require wider and more structured cross-sectoral coordination, which is more difficult to achieve.

The third point that we propose is the enhancement of the rich heritage of good practices to date carried out (of which the projects analysed represent a significant sample) through the creation of guidelines, which would lay the foundation for promoting integrated school-city regeneration projects in all contexts.

Guidelines may contain three levels of indication:

– *Procedural aspects:* i.e. how to start, develop, implement, and maintain an integrated school-city regeneration project, also with reference to the procurement of resources; which actors, institutional and otherwise, involve; the modalities of participation for an effective involvement of school communities and citizens; the need to provide for the maintenance of interventions, an essential theme especially when projects are based on greening materials.

– *Methodology*: i.e. implement pre-intervention analysis, especially for those greening interventions that are very popular today in school open spaces but sometimes designed independently of ex-ante surveys on the positive impacts they produce; read and represent the characteristics of the school context, so that the project is consistent with it and as much as possible place-based; plan interventions in order of priority (in some contexts such as Italy, the projects on school open spaces concern a building stock largely degraded that would require first of all a safety against the risk of earthquake and fire as well as the maintenance of some basic equipment).

– *Design solutions:* i.e. the collection of design solutions (with special reference to Nature Based Solutions) that can be adopted to meet various needs, which can be traced back to the four strategic issues previously illustrated (sustainable mobility, greening, new public space, circularity). Such solutions could then be declined for specific contexts of intervention.

6. Conclusions

The study presented in this article aims to contribute to the wider field of research on the improvement of EGD transition policies, with special reference to some of its weaknesses such as the creation of environmental and territorial inequalities, the adoption of sectoral approach in different policy areas, the concentration of resources on major infrastructural interventions to the detriment of the maintenance of everyday life contexts, the creation of ecological gentrification. Starting from the idea that the local scale can play a crucial role to cope with the abovementioned critical issues, this study considers the school open spaces as test beds for a place-based transition, more effective and just. Such spaces can contribute to localising the EGD, dealing with the strategic issues and governance principles for its implementation. However, although attention to these spaces has increased considerably in recent years, the interventions have been episodic and fragmented, lacking a systematic vision.

This entails the risk of creating further disparities in access to urban services and public spaces.Hence, it is decisive that public action and in particular local authorities act on a primarily political front, strengthening its role as a major player in the management of urban transformations, and also acquiring adequate economic resources for this task.

It is also essential that, in the process of transition, the major issues to be central to urban policies (such as that of the integrated regeneration between school and city and more generally between public facilities and the city) are defined in a strategic vision. Furthermore, an integrated and cross-sectoral approach is needed to achieve more meaningful and lasting results in the long term, enhancing possible synergies between areas of intervention of public administration but also with the wider world of research and civil society.

Authors' contribution

This paper is the result of a joint reflection by the authors. Section 1, 3, 4.1 and 4.2, 5 and 6 were written by Maria Rita Gisotti and Section 2, 4.3 and 4.4 by Benedetta Masiani.

References

Abdullah, H. (2021a) Bridging green and digital agendas in cities to drive more ambitious and inclusive transitions. *CIDOB Briefings*, 34. Retrieved from: https://www.cidob.org

Abdullah, H. (ed.) (2021b). *Towards a European Green Deal with Cities. The Urban Dimension of the Eu's Sustainable Growth Strategy*. CIDOB: Barcelona ISBN: 978-84-92511-88-4

Adelmann, J., & Davis, R. (2015). Green Schoolyards: A Growing Movement Supporting Health, Education and Connection with Nature. Retrieved from: <GreenSchoolyards.pdf (healthyschoolscampaign.org)> (08/22)

Ahn, B., Friesenecker, M., Kazepov, Y. A. K., & Brandl, J. (2023). How Context Matters: Challenges of Localizing Participatory Budgeting for Climate Change Adaptation in Vienna. *Urban planning, 8*(1), 399-413. https://doi.org/10.17645/up.v8i1.6067

Alberti, V. et al. (2019). *The Future of Cities: Opportunities, Challenges and the Way Forward.* Publications Office of the European Union: Luxembourg

Alberti, F. & Radicchi, A. (2022). The Proximity City: a comparative analysis between Paris, Barcelona and Milan. *Techne*, *23* (5), 69 - 77. https://doi.org/10.36253/techne-12151

Annese, M., Lamacchia, M.R., Cascione, V., & Sunna, C. (2022). I poli per l'infanzia ZeroSei: Progettare nuovi spazi per crescere tra le istanze della didattica e quelle della città. *Contesti. Città, Territori, Progetti*, *1*(1), 173–193. https://doi.org/10.36253/contest-13457

Arlati, A., Rödl, A., Kanjaria-Christian, S., & Knieling, J. (2021). Stakeholder Participation in the Planning and Design of Nature-Based Solutions. Insights from CLEVER Cities Project in Hamburg. *Sustainability 13* (5), 1 - 18. https://doi.org/10.3390/su13052572

Arnetoli, M.V., L'Abate, I., & Mazzoni, M. (2022). Costruire nuovi immaginari per gli spazi aperti della scuola come strumento di educazione alla sostenibilità ambientale: Il percorso di progettAzione partecipata "Il giardino che vorremmo". *Contesti. Città territori progetti. 1*(1), 50-69 DOI: https://doi.org/10.36253/contest-13586

Barca, F. (2009). An Agenda for a Reformed Cohesion Policy. A Place-Based Approach to Meeting European Union Challenges and Expectations. Retrieved from: https://ec.europa.eu. Accessed 9 May 2023

Barò, F., Camacho D.A., Pérez del Pulgar, C., Ruiz-Mallén, I., & García-Serrano, P. (2022). Nature-Based Climate Solutions in European Schools: A Pioneering Co-designed Strategy Towards Urban Resilience. *Urban Book Series*, 125- 146. https://doi.org/10.1007/978-3-031-07301-4_6

Bentley, G. & Pugalis, L. (2014). Shifting paradigms: People-centred models, active regional development, space-blind policies and place-based approaches. *Local Economy, 29* (4-5), 283-294. https://doi.org/10.1177/0269094214541355

Bohnert, A.M., Nicholson, L., M., Mertz, L., Bates, C.,R., & Gerstein, D.E. (2022). Green schoolyard renovations in low-income urban neighborhoods: Benefits to students, schools, and the surrounding community. *American Journal of Community Psychology, 69* (3-4), 463 - 473. https://doi.org/10.1002/ajcp.12559

Bricocoli, M., Orsini, F., Renzoni, C., & Savoldi, P. (2022). *Schools and cities: spaces for solutions. In Cities Learning from a Pandemic* (pp. 209-231). Routledge

C40 Cities (2020), Global Mayors Covid-19 Recovery Task Force, *C40 Mayors' Agenda for a Green and Just Recovery*. Retrieved from: https://www.c40knowledgehub.org

Cannella, F., Fattorelli, S., Tosi, M.C, & Zucca, V.R. (2022). Back to (the Future) School. Reshaping the Relationship Between Mobility and Schools. In Renzoni, C. & Savoldi, P. (Eds.) *Les Espaces d'apprentissage: une question urbaine et territoriale*, *16*, 136-153. https://doi.org/10.4000/craup.11501

Cartes Leal, V. (2015). *L'École, l'enfant et la ville, Les conditions de l'urbanisme scolaire, Cas de la Région de Bruxelles-Capitale*, Louvain, Presses universitaires de Louvain

Ceci M., Caselli B., & Zazzi M. (2023). Soil de-sealing for cities' adaptation to climate change. *TeMA - Journal of Land Use, Mobility and Environment*, *16* (1), 121-145. https://doi.org/10.6093/1970-9870/9395

Checker, M. (2011). Wiped Out by the "Greenwave": Environmental Gentrification and the Paradoxical Politics of Urban Sustainability. *City & Society, 23*(2). https://doi.org/10.1111/j.1548-744X.2011.01063

Ciplet, D., Timmons, R., & Khan, M. (2015). *Power in a Warming the New Global Politics of Climate Change and the Remaking of Environmental Inequality*. The MIT Press. Retrieved from: https://circularcitiesdeclaration.eu. Accessed 9 May 2023

Clarke, R. (2022). *School streets: putting children and the planet first.* Retrieved from: https://www.childhealthinitiative.org

Coppola, A., Del Fabbro, M., Lanzani, A., Pessina, G., & Zanfi, F. (2021). *Ricomporre i divari. Politiche e progetti territoriali contro le disuguaglianze e per la transizione ecologica*. Il Mulino: Bologna

De Luca, C., Naumann, S., Davis, M., & Tondelli, S. (2021). Nature-based solutions and sustainable urban planning in the European environmental policy framework: analysis of the state of the art and recommendations for future development, *Sustainability, 13*(9), 5021. doi:10.3390/ su13095021

Delmas, M.A., & Burbano, V. (2011). The Drivers of Greenwashing. *California Management Review 54*(1), https://doi.org/10.1525/cmr.2011.54.1.64

Derr, V.L. & Rigolon, A. (2017). Participatory Schoolyard Design for Health and Well-Being: Policies that Support Play in Urban Green Spaces. In: Freeman C., Tranter P., Skelton T. (Eds) *Risk, Protection, Provision and Policy. Geographies of Children and Young People, 12*. Singapore: Springer

Dessì, V. & Fianchini, M. (2021), The schoolyard: a resource for health and educational innovation, *Sustainable Mediterranean Construction, 13*, 160 – 165

Dessì, V. & Piazza A.I. (2020). *La scuola è in cortile. Strategie e buoni esempi per valorizzare il cortile scolastico*. Pescara: Urban NarrAction

Doswald, N., & Osti, M. (2011). *Ecosystem-based Approaches to Adaptation and Mitigation: Good Practice Examples and Lessons Learned in Europe*. BfN, Federal Agency for Nature Conservation

ETTG (2022) The European Green Deal and the war in Ukraine crises in the short and long term. Retrieved from: https://ettg.eu/wp-content/uploads/2022/07/The-European-Green-Deal-and-the- war-in-Ukraine.pdf (accessed 9 May 2023)

European Commission (2019). *The European Green Deal.* Communication COM (2019) 640 final. Retrieved from: https://ec.europa.eu. Accessed 9 May 2023

European Commission (2020a). *Draft Green Recovery Plan*. Retrieved from: https://www.euractiv.com. Accessed 9 May 2023

European Commission (2020b), New Leipzig Charter. 2020. Retrieved from: https://ec.europa.eu. Accessed on 30 March 2022

European Commission (2021a) *Local Green Deals. A blueprint for action.* Retrieved from: https://www. intelligentcitieschallenge.eu. Accessed 9 May 2023

European Commission (2021b). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. New European Bauhaus. Beautiful, Sustainable, Together. Retrieved from: https://eur-lex.europa.eu. Accessed 28 September 2023

European Commission (2022). Learning for the green transition and sustainable development: staff working document. Retrieved from: https://data.europa.eu

European Committee of the Regions (2021). *Green Deal Going Local* Roadmap 2021. Retrieved from: https://cor.europa.eu. Accessed 9 May 2023)

European Committee of the Regions, Commission for the Environment, Climate Change and Energy, Martinos, H., Tödtling-Schönhofer, H., Jeffrey, P., (2022). Equal opportunities and responsibilities in the implementation of the European Green Deal, European Committee of the Regions, 2022, https://data.europa.eu/doi/10.2863/718117. Accessed 9 May 2023

European Environmental Agency (2021). Urban Sustainability in Europe: opportunities for challenging times, Briefing 03/2021. Retrieved from: https://www.eea.europa.eu/publications/urban- sustainability-in-europe. Accessed 9 May 2023

Fernández De Losada, A. & Abdullah H. (2020). Cities on the Frontline: Managing the Coronavirus Crisis, Report 05 June. Retrieved from: https://www.metropolis.org/sites/default/files/resources/CIdOB_Cities-frontline.pdf

Fianchini, M. (2017). *Rinnovare le scuole dall'interno. Scenari e strategie di miglioramento per le infrastrutture scolastiche*. Santarcangelo di Romagna: Maggioli Editore. ISBN 978-88-916-2011-8

Fratini, F. (2020). Oasi Verdi a San Lorenzo (Roma). La rigenerazione a piccoli passi. *Crios, 19,* 46 - 59. https://doi.org/10.3280/CRIOS2020-019005

Fratini, F. (2023). The Eco-Pedagogical Microforest a shared oasis of proximity. A cutting-edge project at the intersection of ecology, urbanism and pedagogy. *TeMA - Journal of Land Use, Mobility and Environment, 2*(2023) 33-54. https://doi.org/10.6093/1970-9870/10055

Gaglione, F., & Ayiine-Etigo D. (2022). Accelerate urban sustainability through policies and practices on the mobility system in Italy. *TeMA - Journal of Land Use, Mobility and Environment, 15*(3), 549-553. https://doi.org/10.6093/1970-9870/9413

Geneletti, D., & Zardo, L. (2016). Ecosystem-based adaptation in cities: An analysis of European urban climate adaptation plans. *Land use policy,* 50, 38-47. https://doi.org/10.1016/j.landusepol.2015.09.003

Giezen, M. & Pellerey, V. (2021). Renaturing the city: Factors contributing to upscaling green schoolyards in Amsterdam and The Hague. *Urban Forestry and Urban Greening, 63.* https://doi.org/10.1016/j.ufug.2021.127190

Gill, T. (2014). The benefits of children's engagement with nature: a systematic literature review. *Child Youth Environ. 24*(2):10–34

Gisotti, M.R. & Masiani, B. (2023). La scuola fa città. Il ruolo degli spazi aperti scolastici e di quartiere nelle pratiche di educazione alla democrazia. *In_BO. Ricerche e progetti per il territorio, la città e l'architettura, 18*(13), 65-82. https://doi.org/10.6092/issn.2036-1602/14836

Gisotti M.R. & Tarsi E. (2023). Regional spatial planning for implementing the European Green Deal: a new method of assessment applied to the metropolitan area of Florence. *Volume 38, Issue 4* (2023), pp. 581-611, https://doi.org/10.1080/02697459.2023.2230014

Kabisch, N., Korn, H., Stadler, J., & Bonn, A. (2017). *Nature-based Solutions to Climate Change Adaptation in Urban Areas. Linkages between Science, Policy and Practice*. Springer Open. https://doi.org/10.5751/ES-08373-210239

Klinenberg, E. (2018). *Palaces for the people. How Social Infrastructure Can Help Fight Inequality, Polarization, and the Decline of Civic Life*. New York: Crown

Lamacchia, M.R., Luisi, D., Mattioli, C., Pastore, R., Renzoni, C., & Savoldi, P. (2021). Contratti di scuola: uno spazio per rafforzare le relazioni tra scuola, società e territorio. In Coppola, A., Del Fabbro, M., Lanzani, A., Pessina, G., Zanfi, F. *Ricomporre i divari. Politiche e progetti territoriali contro le disuguaglianze e per la transizione ecologica*, 239-249, Bologna, il Mulino

Lanza, K., Alcazar, M., Hoelscher, D.M., & Kohl, H.W. (2021). Effects of trees, gardens, and nature trails on heat index and child health: design and methods of the Green Schoolyards Project. *BMC Public Health, 21* (1). https://doi.org/10.1186/s12889-020-10128-2

Lydon, M. & Garcia, A. (2015). *Tactical urbanism: Short-term action for long-term change.* Island Press. https://doi.org/10.5822/978-1-61091-567-0

Longo, D., Orlandi, S., Boeri, A., & Turillazzi, B. (2022). Proximity as a design strategy for sustainable, collaborative and inclusive urban public spaces. *WIT Transactions on Ecology and the Environment. 12th International Conference on Sustainable Development and Planning.* 258, 3 - 14. https://doi.org/10.2495/SDP220011

Marchigiani, E. & Bonfantini, B. (2022). Urban Transition and the Return of Neighbourhood Planning. Questioning the Proximity Syndrome and the 15-Minute City. *Sustainability, 14*. https://doi.org/10.3390/su14095468

Marot, S., & Catsaros, C. (2020). Agriculture et Architecture: Trajectoires Communes 3. *Archit. Aujourdhui*. Retrieved from: https://hal.archives-ouvertes.fr/hal-03521348/ (accessed on 31 March 2022)

Masiani, B. (2020). Territorio educante. Spazi dinamici di istruzione nella città come scuola. *Contesti. Città, territori, progetti* (2). Firenze: Firenze University Press. DOI: 10.13128/contest-12495. pp. 163-175

Mattioli, C., Renzoni, C., & Savoldi, P. (2021). Scuole e territori fragili. Il modello lungimirante del Contrat École a Bruxelles. *Territorio, 97*, 67-76. https://doi.org/10.3280/tr2021-097-Supplementooa12929

Mccann, P., & Soete, L. (2020). *Place-based Innovation for Sustainability*. Luxembourg: Publications Office of the European Union). https://doi.org/10.2760/250023.JRC121271

Moreno, C. (2020). *Droit de Cité. De la "Ville-Monde" à la "Ville du Quart D'heure"*. Paris: Éditions de l'Observatoire

New European Bauhaus (2022). The New European Bauhaus Compass. Retrieved from: https://new-european-bauhaus.europa.eu/get-involved/use-compass_en (accessed 28 September 2023)

OECD (2020a), Tackling Coronavirus (Covid-19): Contributing to a global effort. Cities Policy Responses. Retrieved from: http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/> (11/2020)

OECD (2020b), *Back to the Future of Education. Four OECD Scenarios for Schooling,* Bruxelles: OECD publisher

Palestino, M.F., Amore, M.P., Cuntò, S., & Molinaro, W. (2020). Reinventare le scuole come hub di rigenerazione socio-ecologica. Una ricognizione sulle potenzialità degli spazi aperti degli istituti superiori di Napoli. *BDC 20* (1), 181–96. https://doi.org/10.6092/2284-4732/7550

Papa, C., & Sachs, J. (2021). Implementing the European Green Deal through Transformational Change. A Review of EU Climate Action through the Lens of the 'Six transformations'. Retrieved from: https://www.enelfoundation.org/all-news/news/2021/11/implementing-the- european-green-deal-through-transformational-ch (accessed 9 May 2023)

Pasqui, G. (2019). Scuole e città. *Urbanistica*, 163, 134–36

Patti, F. (2021). La scuola: uno spazio pubblico strategico per ridisegnare la città. In Caruso, N., Pasqui G., Tedesco, C., Vassallo, I. *Rigenerazione dello spazio urbano e trasformazione sociale*, 179-197, Atti della XXIII Conferenza Nazionale, 5, Milano: Planum Publisher

Pearsall, H., & Anguelovski, I. (2016). Contesting and Resisting Environmental Gentrification: Responses to New Paradoxes and Challenges for Urban Environmental Justice. *Sociological Research Online 21*(3). https://doi.org/10.5153/sro.3979

Pileri, P., Renzoni, C., & Savoldi, P. (2022). *Piazze scolastiche. Reinventare il dialogo tra scuola e città.* Mantova: Corraini Edizioni. isbn: 9791254930144

Pisano, C. (2020). Strategies for Post-COVID Cities: An Insight to Paris En Commun and Milano 2020. *Sustainability, 12*, 5883-5897. https://doi.org/10.3390/su12155883

Renzoni, C. (2019), L'eredità degli standard urbanistici: partire dalle scuole. Atti della XXI Conferenza Nazionale SIU. *Confini Movimenti Luoghi. Politiche e progetti per città e territori in transizione*, Firenze 6-8 giugno 2018, Planum Publisher, Roma-Milano, (3)3A, pp. 161-167

Renzoni, C., Rotondo, F., Savoldi, P., & Turi, P.G. (2021). Reclaim the street, reclaim the school. Lo spazio urbano delle scuole tra urbanistica, mobilità e istruzione. In Giaimo, C., Tosi, M.C., Voghera, A., (Eds.) *Atti della XXIII Conferenza Nazionale SIU – Società Italiana degli Urbanisti. Torino 17–18 giugno 2021*, vol. 1, *Tecniche urbanistiche per una fase di decrescita*. 101–07. Roma-Milano: Planum Publisher. Retrieved from: https://issuu.com/planumnet/docs/volume_01_ok

Renzoni, C. & Savoldi, P. (2019) Scuole: spazi urbani di transizione e apprendimento. *Urbanistica, 163,* 140-147. ISSN 0042-1022

Renzoni, C. & Savoldi, P. (2022). Learning spaces as urban places: issues and perspectives. Introduction. *Les espaces d'apprentissage comme espaces urbains : thèmes et perspectives (*16). https://doi.org/10.4000/craup.11636

Rivera Gómez C., Diz-Mellado E., Galán-Marín C., & López-Cabeza V. (2019). Tempering potential-based evaluation of the courtyard microclimate as a combined function of aspect ratio and outdoor temperature. *Sustainable Cities and Society, 51*, 11, 101740. https://doi.org/10.1016/j.scs.2019.101740

Rosado García, M. J., Kubus, R., Argüelles-Bustillo, R., & García-García, M. J. (2021). A New European Bauhaus for a culture of transversality and sustainability. *Sustainability, 13*(21), 11844. https://doi.org/10.3390/su132111844

Sabir Onat, B., & Yirmibesoglu, F. (2023). Evaluation of sustainable schoolyards: "Design your schoolyard" workshops with a practice-based process in Muratpaşa, Antalya. *ITU A/Z, 20*(1), 117-132. https://doi.org/10.5505/itujfa.2022.83604

Salvador, A.J. (2023). The Piazze Aperte programme and the institutional practice of tactical urbanism in Milan. *Ciudades, 26*, 47-66. https://doi.org/10.24197/ciudades.26.2023.47-66

Shbeeb, L., & Awad, W. (2013). Walkability of school surroundings and its impact on pedestrian behaviour. *TeMA - Journal of Land Use, Mobility and Environment, 6*(2), 171-188 https://doi.org/10.6092/1970-9870/1608

Stevenson, K.T., Moore, R., Cosco, N., Jordan, C., & Zaplatosch, J. (2020). A national research agenda supporting green schoolyard development and equitable access to nature. *Elementa, 8* (1), 406. https://doi.org/10.1525/elementa.406

Thomas, A., Furlong, J., & Aldred, R. (2022). Equity in temporary street closures: The case of London's Covid-19 'School Streets' schemes. *Transportation Research Part D: Transport and Environment*, 110. https://doi.org/10.1016/j.trd.2022.103402

Tonucci, F. (2020). *La città dei bambini. Un nuovo modo di pensare la città.* Bergamo: ZeroSeiUp. Isbn: 889933806X

Toomey, A., Smith, J., Becker, C. (2023). Towards a pedagogy of social-ecological collaborations: engaging students and urban nonprofits for an ecology with cities. *Urban Ecosyst, 26*, 425–432. https://doi.org/10.1007/s11252-023-01343-x

Tulisi A. (2017). Urban Green Network Design: Defining green network from an urban planning perspective. *TeMA - Journal of Land Use, Mobility and Environment*, 10(2), 179-192. https://doi.org/10.6092/1970-9870/5156

Van Den Bogerd, N., Hovinga, D., Hiemstra, J.A., & Maas, J. (2023). The Potential of Green Schoolyards for Healthy Child Development: A Conceptual Framework, *Forests 14, 4, (660)*. https://doi.org/10.3390/f14040660, 14, 4, (660).

Van Dijk-Wesselius, J., Maas, J., Hovinga, D., Van Vugt, M., & Van den Berg, A. (2018). The impact of greening schoolyards on the appreciation, and physical, cognitive and social-emotional well-being of schoolchildren: a prospective intervention study. *Landsc Urban Plan.* 180:15–26.

Vanos, J., & Pfautsch, S. (2023). Building and school-playground design to protect from weather extremes. In Vanos,J. & Hyndman, B. (Eds.) *The Impact of Extreme Weather on School Education: Protecting School Communities*, 94-118, London: Routledge

Vassallo, J., Ciaffi, D., & Saporito, E. (2022). From social infrastructure to civic center. The school as laboratory of collaborative governance models. *Les cahiers de la recherche architecturale, urbaine et paysagère*. ISSN 2606-7498. - 16:(2022)

Velicu, I., & Barca, S. (2020) The Just Transition and its work of inequality. *Sustainability: Science, Practice & Policy, 16*(1), 263–273. https://doi.org/10.1080/15487733.2020.1814585

Vicente, M.M., Leitão, R., Quintino, V., Pombo, P., & Rodrigues, A.M. (2023). Urban vegetable gardens as an environmental education tool for promoting primary school students' engagement in EU Green Deal strategies. *Visions for Sustainability*, 19. https://doi.org/10.13135/2384-8677/6994

Wendler, F. (2022). *Framing climate change in the EU and US after the Paris agreement*. Palgrave Studies in European Union Politics, Springer. https://doi.org/10.1007/978-3-031-04059-7_1

Website References

http://www.comune.torino.it/iter/progetti/laboratorio-citta-sostenibile/torino-mobility-lab/

https://www.madrid.es/UnidadesDescentralizadas/Sostenibilidad/EspeInf/EnergiayCC/04CambioClimatico/4c3Mad+Natural/M+N2019
/Ficheros/03_UrbanismoResilienteM+N2019.pdf

https://www.amat-mi.it/it/progetti/piazze-aperte/

https://www.fondazioneinnovazioneurbana.it/progetti

https://ajuntament.barcelona.cat/ecologiaurbana/ca/que-fem-i-per-que/urbanisme-per-als-barris/protegim-escoles

https://asf-piemonte.org/cortili-in-azione/

https://perspective.brussels/fr/projets/contrats-ecole

http://www.comune.torino.it/circ7/cm/pages/ServeBLOB.php/L/IT/IDPagina/6579

https://www.climate-chance.org/en/best-pratices/redesigning-playgrounds/

https://www.fondazioneinnovazioneurbana.it/progetto/spazioabologna

https://www.comune.lucca.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/23571

https://clevercities.eu/

https://www.metamorphosis-project.eu/sites/default/files/Presentazione_Le%20strade%20scolastiche.pdf

Author's profile

Maria Rita Gisotti, architect and PhD, Associate Professor in Urban Planning. She teaches at the School of Architecture at the University of Florence and at the Ecole Euro-méditerranéenne d'Architecture, Design et d'Urbanisme in Fès. Her research interests refer to: schools as pivots of the public city and processes of urban regeneration; the processes of metropolization in the Global South with particular reference to Morocco; landscape planning in Italy; the peri-urban territory from a patrimonial perspective; the protection of the rural landscape, with particular reference to its morphological and aesthetic-cultural qualities.

Benedetta Masiani, architect and PhD student in Urban Planning at the Department of Architecture (DIDA), University of Florence. Her research work investigates the role of public space in informal education processes as well as the function of schools in city regeneration projects.