

TeMA

Journal of
Land Use, Mobility and Environment

The fragile/resilience city represents a topic that collects itself all the issues related to the urban risks and referred to the different impacts that an urban system has to face with. Studies useful to improve the urban conditions of resilience are particularly welcome. Main topics to consider could be issues of water, soil, energy, etc..

Tema is the Journal of Land use, Mobility and Environment and offers papers with a unified approach to planning and mobility. TeMA Journal has also received the Sparc Europe Seal of Open Access Journals released by Scholarly Publishing and Academic Resources Coalition (SPARC Europe) and the Directory of Open Access Journals (DOAJ).



THE RESILIENCE CITY / THE FRAGILE CITY.
METHODS, TOOLS AND BEST PRACTICES.

THE RESILIENCE CITY/THE FRAGILE CITY. METHODS, TOOLS AND BEST PRACTICES

2 (2018)

Published by

Laboratory of Land Use Mobility and Environment
DICEA - Department of Civil, Architectural and Environmental Engineering
University of Naples "Federico II"

TeMA is realized by CAB - Center for Libraries at "Federico II" University of Naples using Open Journal System

Editor-in-chief: Rocco Papa
print ISSN 1970-9889 | on line ISSN 1970-9870
Licence: Cancelleria del Tribunale di Napoli, n° 6 of 29/01/2008

Editorial correspondence

Laboratory of Land Use Mobility and Environment
DICEA - Department of Civil, Architectural and Environmental Engineering
University of Naples "Federico II"
Piazzale Tecchio, 80
80125 Naples
web: www.tema.unina.it
e-mail: redazione.tema@unina.it

Cover Image by Maria Rosa Tremiterrera of Am Sandtorkai, one of the main streets of HafenCity, a new district located on the waterfront of the City of Hamburg. HafenCity can be considered "a city in the city" and one of the most resilient urban areas in the world to the flooding events thanks to its urban redevelopment strategy.

TeMA. Journal of Land Use, Mobility and Environment offers researches, 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.

The Italian *National Agency for the Evaluation of Universities and Research Institutes* (ANVUR) classified TeMA as scientific journal in the Area 08. TeMA 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 3.0 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.

EDITOR IN-CHIEF

Rocco Papa, University of Naples Federico II, Italy

EDITORIAL ADVISORY BOARD

Mir Ali, University of Illinois, USA
Luca Bertolini, University of Amsterdam, Netherlands
Luuk Boelens, Ghent University, Belgium
Dino Borri, Polytechnic University of Bari, Italy
Enrique Calderon, Polytechnic University of Madrid, Spain
Roberto Camagni, Polytechnic University of Milan, Italy
Derrick De Kerckhove, University of Toronto, Canada
Mark Deakin, Edinburgh Napier University, Scotland
Aharon Kellerman, University of Haifa, Israel
Nicos Komninos, Aristotle University of Thessaloniki, Greece
David Matthew Levinson, University of Minnesota, USA
Paolo Malanima, Magna Graecia University of Catanzaro, Italy
Agostino Nuzzolo, Tor Vergata University of Rome, Italy
Rocco Papa, University of Naples Federico II, Italy
Serge Salat, Urban Morphology and Complex Systems Institute, France
Mattheos Santamouris, National Kapodistrian University of Athens, Greece
Ali Soltani, Shiraz University, Iran

ASSOCIATE EDITORS

Rosaria Battarra, National Research Council Institute of Studies on Mediterranean Societies, Italy
Luigi dell'Olio, University of Cantabria, Spain
Romano Fistola, University of Sannio, Italy
Carmela Gargiulo, University of Naples Federico II, Italy
Thomas Hartmann, Utrecht University, Netherlands
Markus Hesse, University of Luxembourg, Luxembourg
Seda Kundak, Technical University of Istanbul, Turkey
Rosa Anna La Rocca, University of Naples Federico II, Italy
Houshmand Ebrahimpour Masoumi, Technical University of Berlin, Germany
Giuseppe Mazzeo, National Research Council Institute of Studies on Mediterranean Societies, Italy
Nicola Morelli, Aalborg University, Denmark
Enrica Papa, University of Westminster, United Kingdom
Dorina Pojani, University of Queensland, Australia
Floriana Zucaro, University of Naples Federico II, Italy

EDITORIAL STAFF

Gennaro Angiello, PhD at University of Naples Federico II, Italy
Gerardo Carpentieri, PhD at University of Naples Federico II, Italy
Stefano Franco, PhD student at Luiss University Rome, Italy
Rosa Morosini, PhD student at University of Naples Federico II, Italy
Marco Raimondo, Engineer, University of Sannio, Italy
Maria Rosa Tremitera, PhD student at University of Naples Federico II, Italy
Andrea Tulisi, PhD at Second University of Naples, Italy

TeMA

Journal of
Land Use, Mobility and Environment

THE RESILIENCE CITY/THE FRAGILE CITY. METHODS, TOOLS AND BEST PRACTICES

2 (2018)

Contents

171 EDITORIAL PREFACE
Rocco Papa

FOCUS

173 **Urban commons: social resilience experiences that increase the value of urban system**
Giulia Esopi

195 **Measuring Urban Resilience to Natural Hazard**
Mehrnaz Molavi

LAND USE, MOBILITY AND ENVIRONMENT

213 **The Value of Urban Density**
Fabio Hernandez Palacio, Sabrina Scherzer, Yngve Froyen

231 **Analysing the Spatial structure of the Street network to understand the Mobility pattern and Land-use - A case of an Indian city - Mysore**
Harcharan Pappu

247 REVIEW PAGES
Gennaro Angiello, Gerardo Carpentieri, Rosa Morosini,
Maria Rosa Tremiterra, Andrea Tulisi

CALL FOR PAPERS: TEMA VOL. 11 (2018)

The Resilience City/The Fragile City. Methods, tools and best practices.

The fragile/resilience city represents a topic that collects itself all the issues related to the urban risks and referred to the different impacts that an urban system has to face with. Studies useful to improve the urban conditions of resilience (physical, environmental, economical, social) are particularly welcome. Main topics to consider could be issues of water, soil, energy, etc.. The identification of urban fragilities could represent a new first step in order to develop and to propose methodological and operative innovations for the planning and the management of the urban and territorial transformations.

The Journal also welcomes contributions that strategically address the following issues:

- new consideration of the planning standards, blue and green networks as a way to mitigate urban risks and increase city resilience;
- the territorial risks and fragilities related to mobility of people, goods, knowledge, etc.;
- the housing issue and the need of urban regeneration of the built heritage;
- socio-economical behaviour and the "dilemma" about emergency and prevention economy;
- the city as magnet of the next future's flows (tourism, culture, economy, migration, etc.).

Publishing frequency is four monthly. For this reason, authors interested in submitting manuscripts addressing the aforementioned issues may consider the following deadlines

- first issue: 10th January 2018;
- second issue: 10th April 2018;
- third issue: 10th September 2018.

CALL FOR PAPERS: GENERAL CALL.

Papers in Transport, Land Use and Environment

The Journal welcomes papers on topics at the interdisciplinary intersection of transport and land use, including research from the domains of engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science, and complex systems

TeMA 2 (2018) 173-194
print ISSN 1970-9889, e- ISSN 1970-9870
DOI: <http://dx.doi.org/10.6092/1970-9870/5532>

review paper received 10th April 2018, accepted 27th August 2018
Licensed under the Creative Commons Attribution – Non Commercial License 3.0
www.tema.unina.it

Esopi, G. (2018). Urban commons: social resilience experiences to increase the quality of urban system. *Tema. Journal of Land Use, Mobility and Environment*, Issue Volume 11(2), 173-194. doi: <http://dx.doi.org/10.6092/1970-9870/5532>



URBAN COMMONS: SOCIAL RESILIENCE EXPERIENCES TO INCREASE THE QUALITY OF URBAN SYSTEM

GIULIA ESOPÌ

Urban Project Laboratory
Department of Civil Engineering and Architecture, University of Pavia
e-mail: giulia.esopi01@universitadipavia.it
URL: uplab.unipv.it/people/eng-giulia-esopi

ABSTRACT

The present paper defines a specific typology of urban commons and aims to show how these are social resilience based phenomena that can increase the quality of urban system.

The contemporary urban studies debate intends the city as a complex system that interacts with other cities creating a complex global network. At the same time, the city is subject to continuous and rapid changes that generate instability conditions and make it fragile. The institutions, responsible for territory sustainable development, struggle to deal with these phenomena generating situations of inefficiency and poor functioning of city system and its parts. In example, the inability of institutions to manage the territory is represented in static and rigid space arrangements of a fluid system. These situations cause the misuse/under-use of spaces and services by society and the dissatisfaction of city users needs.

In an attempt to fill the gap left by public actors, community initiatives are emerging from below aimed to shape urban space creating new opportunities for community use. These are forms of collaboration and cooperation among different individuals that take responsibility for urban resources by satisfying both collective and individual needs. They are social resilience experiences, or rather reactions-actions by individuals that represent alternatives to traditional planning. The social component abilities (reactive, adaptive and proactive) increase the quality of urban system in terms of enhancement, sustainability and attractiveness. From these interaction among physical elements and individuals, new forms of wealth are generated as urban commons.

KEYWORDS:

Urban commons; social resilience; urban system quality.

TeMA

有关土地使用、交通和环境的杂志

TeMA 2 (2018) 173-194
print ISSN 1970-9889, e- ISSN 1970-9870
DOI: <http://dx.doi.org/10.6092/1970-9870/5532>

review paper received 10th April 2018, accepted 27th August 2018
Licensed under the Creative Commons Attribution – Non Commercial License 3.0
www.tema.unina.it

Esopi, G. (2018). Urban commons: social resilience experiences to increase the quality of urban system. *Tema. Journal of Land Use, Mobility and Environment*, Issue Volume 11(2), 173-194. doi: <http://dx.doi.org/10.6092/1970-9870/5532>



城市共同体

以提高城市系统质量为目的的社会复原能力经验

GIULIA ESOPÌ

Urban Project Laboratory
Department of Civil Engineering and Architecture, University of Pavia
e-mail: giulia.esopi01@universitadipavia.it
URL: uplab.unipv.it/people/eng-giulia-esopi

摘要

本文定义了一种特定类型的城市共同体，旨在表明这些基于社会复原力的现象如何提高城市系统的质量。

当代的城市研究将城市看作一个复杂的系统；它与其他城市相互作用，从而构建起一个复杂的全球网络。同时，城市面临的种种持续、迅速的变化，产生了不稳定状况且让城市变得脆弱不堪。负责地域可持续发展的各种机构，致力于处理这些导致城市系统及其各部件出现效率低下和运作不力问题的种种现象。例如，机构无力管理的地域的问题，表现为流体系统的静态和刚性空间安排。这些情况导致了社会对空间和服务的滥用/使用不充分，以及城市用户不满意的结果。

作为填补公共行为者留下的空白的一个尝试，出现了如下的社区活动计划，其目的是打造城市空间，提供社区可使用的新机会。不同个人之间进行这些协作和合作的形式，通过满足集体和个人的各种需求，承担了不同城市资源的责任。包括社会复原能力的经验，或者反应力

——
即作为传统规划方式替代品的个人行动。社会组成部分的能力（反应力、适应性和积极主动性）能提高城市系统在可持续发展和吸引力方面的品质。从各种物理因素和个人之间的这些相互作用中，产生了新形财富，即城市共同体。

关键词：

城市共同体；社会复原力；城市系统品质。

1 INTRODUCTION

1.1 BACKGROUND

In recent decades, the urban studies have underlined the role of the city as a complex system (Pumain, et al., 1989; Nijkamp & Reggiani, 1998; Bertuglia & Staricco, 2000; Batty, 2005; Portugali, 2013). The complexity is due to the duality of urban system, consisting of an artificial component of well-defined elements and *urban agents*. These latter, interacting with the artificial component and the surrounding territory, make the city nature chaotic and difficult to predict (Portugali, 2013). At the same time, the complex urban system interacts with other cities creating a global network that is also complex (Bertuglia & Vaio, 2011). Moreover, the city is exposed to rapid and sudden changes of several nature (political, socio-economic, environmental) which cause continuous mutations of population needs. These events strain the urban system generating instability conditions that threaten its balance and make it 'fragile' (Blečić & Cecchini, 2016). The institutions, responsible for urban sustainable development, have the task to understand the challenges and their effects and to address them through focused and planned strategies. For several reasons (public funding reduction, obsolete and rigid government tools, etc.), they struggle to carry out their assignment, generating deadlock situations that result in inefficiency and poor functioning of city system and its parts. For instance, their inability to manage the territory in order to allow the physical city adaptations implies static and rigid spatial arrangements, that often are unable to meet inhabitants needs. These situations involve the under-use/misuse of spaces and services intended for collective and, therefore, the increase of physical and social degradation. The city parts deterioration compromises the quality of urban environment and landscape, indicators of society well-being along with health, education and training, work and reconciliation of life time, economic wellbeing, social relations, politics and institutions, research and innovation (Istat, 2015). The inability of institutions to meet citizens needs involves a widespread loss of confidence in their role and, consequently, the society's willingness to be a protagonist both in decision-making phases and in operational ones. Thus, autonomous initiatives arise from below aimed to shape urban space creating new opportunities for community use. These are forms of collaboration and cooperation among different subjects and actions of urban resources sharing with the aim to satisfy both collective and individual needs. In particular, experimental practices create places for different activities (social, economic, cultural, recreational, sporting) that, often, allow the recovery of under-utilized or abandoned buildings and spaces. The interactions between social component and physical elements generate forms of wealth comparable with urban commons.

1.2 RESILIENCE IN URBAN SPACE

The ability to cope with external stresses and changes by returning to an equilibrium state (not necessarily equal to the original one) is known with the term of resilience (Newman, 2010; Colucci, 2012; Papa 2012). The present paper focuses on social resilience, understood as actors' abilities to face shocks and adverse conditions (reactive capacity), to adapt to changes preventing possible future risks (adaptive capacity) and to create opportunities for creativity, innovation and development of new skills (proactive capacity) (Adger, 2000; Carpenter et al., 2005; Bohle et al. , 2009; Obrist Pfeiffer & Henley, 2010; Brunetta & Baglione, 2013;). Social resilience is a dynamic concept that recognizes in the abilities of individuals (alone, gathered in communities, entire society) the alternative responses to problems of complex systems, such as urban ones.

1.3 AIM, METHODOLOGY AND STRUCTURE OF THE PAPER

The presented research is about the deepening of urban commons concept in relation with resilience and it refers to issues such as alternative planning methods related to place-making and social urban processes. The aim of the paper is to demonstrate how best practices and experiences contribute to increase the urban

system resilience. In order to pursue the aim, the research follows a deductive methodology which, starting from the analysis of literary references, traces the general and specific features of urban commons as drivers for social resilience; subsequently it verifies their consistency through the analysis of a case studies database. Moreover, the research shows which specific urban commons features contribute to increase urban resilience by providing collective responses to deadlock situations and, at the same time, experimenting new practices for developing the local territory.

The research work is structured into distinct phases:

- *State of the art*. Brief analysis of the topic: from the main researches conducted in the twentieth century to last decade studies that contextualize the theme in urban areas (§ 2);
- *Investigation*. Phase aimed to understand the key aspects of the topic. It is subdivided into two parts: one that, starting from emerging implications of state of the art, focuses on the general characteristics of urban commons; and another that from the general features traces the specific ones. Through a case studies analysis, the research verifies the consistency of specific features and identifies which of them contribute to increase resilience (§ 3 e 4);
- *Discussions and conclusions*. Comments on remarks arising from the investigation phase and future research developments (§ 5 e 6).

2 STATE OF THE ART

2.1 THE TWENTIETH CENTURY STUDIES

The interest in the concept of the common good has evolved in history in a discontinuous way: introduced for the first time in Roman law, it was left out in the Modern Era due to the prevalence of the public-private dichotomy. From the second half of the twentieth century, the concept has been investigated thanks to conducted studies.

In the essay 'The Tragedy of the Commons' published in 1968, Hardin focuses on common goods that he intends as open access resources that anyone can use for personal gain. The author states that the commons are subjected to an inevitable tragedy due to their over-exploitation by individuals and he believes that the only solution is the ownership of the good (state or private). Property rights make the individual responsible and, by extension, the society sustainable (Hardin, 1968).

Few decades later Ostrom, basing on Hardin's studies, continues the investigation work on the topic. She refers to common pool resources material or intangible, not excludable used or produced by more or less large communities. She states that "*commons is a general term that refers to a resource shared by a group of people*" (Ostrom & Hess, 2007). Ostrom refutes the dichotomy between State and Market proving the existence of an efficient and sustainable governance of resources based on management by communities. The communities, composed by resource appropriators and users, are able to manage natural resources in a sustainable way over time and under certain conditions (knowledge, trust and communication between members and existence of institutions that establish rules on the territory). Community management, in addition to preserving goods, is based on members abilities to foster new cooperative and non-competitive production way. Thanks to theoretical considerations and empirical observations, she elaborates eight key principles of commons cooperative self-management: clearly defined boundaries, congruence between appropriation and provision rules and local condition, collective-choice arrangements, monitoring, graduated sanctions, conflict-resolution mechanisms, minimal recognition of rights to organize, nested enterprises (Ostrom, 1990). At the beginning of the new millennium, Rodotà identifies the commons as goods with widespread ownership that belong to everyone and to nobody, in other words everyone can access them, no one can boast exclusive claims. They are functional to the exercise of fundamental rights and to the development of free personality. For these reasons, they must be safeguarded by subtracting them from the

destructive logic of the short term and must be governed in the interest of future generations incorporating the long-term dimension (Rodotà, 2012).

At the same time, Mattei, supporting Rodotà's thesis, understands the common goods as instruments of basic needs satisfaction and as community rights to be protected and promoted. Moreover, the author claims that the commons exist in a qualitative relationship, in other words they are objects that take value if they are connected to subjects (Mattei, 2011).

2.2 COMMONS IN URBAN AREAS

In the last decade the topic has been contextualized in urban areas (Harvey, 2011; Susser & Tonnelat, 2013; Borch & Kornberger, 2015; Foster & Iaione, 2016) thus becoming a key topic of the contemporary urban studies debate. Referring to the city context, urban commons are small and large scale resources which are collaboratively managed by groups of heterogeneous users.

Each specific context is characterized by specific resources. The common goods analyzed by Ostrom refer to natural resources, characterized by the difficulty to exclude potential beneficiaries and by that the use by an individual decreases the availability for others. These are subtractive resources because the use decrease its value. In example, each cut tree in a forest reduces the availability for other users and the overall value of the resource itself.

Unlike common-pool resources, urban commons belong to a context characterized by peculiarities (such as density, proximity, complexity, etc.) that make urban commons non-subtractive resources whose consumption becomes a productive act that can increase the value of urban systems. Through their daily activities, individuals create the social world of the city and, simultaneously, they product urban commons. According to Harvey *"the common is not, therefore, something extant once upon a time that has since been lost, but something that, like the urban commons, is continuously being produced"* (Harvey, 2011).

Susser and Tonnelat highlight that the commons define three components of the right to the city: the right to urban everyday life, to simultaneity and encounters and to creative activity. The first urban commons refers to production, consumption and use of public services and goods; while the second to spaces of mobility and collectively used (streets, subways, public gardens, web, etc.). The last refers to work of artists in mobilizing communities and redefining the conditions of environment perception. If brought together, these three urban commons set the conditions for the future city (Susser, Tonnelat, 2013). According to Borch e Kornberger the urban commons *"only come into existence through the encounter of people, things and ideas. Density and proximity are the intangible fibres that are woven into the fabric of the urban commons. Far from being a 'pool', the urban commons is seen here as the corollary of interactions in dense network"* (Borch & Kornberger, 2015). Urban interactions make public space valuable, bringing several benefits not only to involved actors but to the whole society and to urban environment and landscape. Interaction facilitates a host of benefits such as cooperation, knowledge exchange, social capital accumulation and various other positive externalities that occur to individuals in close proximity to one another (Foster & Iaione, 2016). Urban commons are non-subtractive resources produced by individuals interaction; their becoming depends on people abilities (reactive, adaptive and proactive) to adapt them to continuous changes.

3 FEATURES OF URBAN COMMONS

The analysis of literature references allows the creation of an overall theoretical framework related to the topic and, at the same time, the deduction of indications that start the investigation about urban commons key features. This phase is subdivided into two parts: one that, starting from the emerging implications of the state of the art, focuses on the general characteristics of the urban commons and another that, from the general characteristics, traces the specific ones.

3.1 GENERAL FEATURES

From an economic point of view, goods are classified according to the characteristics of excludability (possibility to exclude those who do not pay from using the good) and rivalry (consumption by an individual reduces the availability for others) (Frank, Bernanke et al., 2015). Public goods, which are non-excludable and non-rivalrous, are produced, managed and maintained by institutions and are used by community (for example: national defence). An example of urban public good is the square, owned by Public Administration (responsible for managing and maintenance activities) and used by society.

Private goods, excludable and rivalrous, are those whose enjoyment is insured only to a person (or to a small group of people), in a full, exclusive and absolute way. In this case, the owner can sell the good to third parties transferring the same rights (for example: a car). In urban areas, an example of private property is an lot of land owned by the individual. There are also hybrid forms of good, such as common good, rivalrous but non-excludable. The commons are shared resources aimed to satisfy the community needs. They are created by individuals who, through various modality of cooperation and sharing, actively participates in their management and governance. Blackmar defines commons as "*an individual's right not to be excluded from the uses or benefits of resources*" (Blackmar, 2006). In particular, urban commons can be both public (i.e. an abandoned school building recovered by a group of citizens and used to satisfy collective benefits) and private (i.e. private lot that is temporarily yielded to inhabitants for collective use).

Further considerations regarding the differences between public, private and common resources emerge considering the ownership, use and care of the good. In particular:

- *Ownership*. Differently from public and private goods for which ownership is a key aspect that defines a specific decision-maker, common goods shift the focus from ownership to the social function. For this reason they can be public or private. People use the resource both through specific methods such as regulations and contracts and through spontaneous actions;
- *Use*. While in private property use is limited to the owner or to a small group of people, in the common goods, as in the public ones, the use is open to a collectively of users;
- *Care*. The care refers to the availability of resources such as time, professional skills, means, donations for the resource enhancement (Arena & Iaione, 2015). It involves activities such management, events planning and maintenance. In public resources, these activities are managed by the Public Administration; while in the private ones the care modalities are carried out or established by the owner. In the case of common goods the individuals act on the public or private resource not only using it but contributing to its care.













The figure below summarizes the differences between public, private and common urban resources considering the ownership, use and care. In particular, it is valid for physical resources within urban contexts such as open spaces. From these considerations it is possible to affirm that a good becomes common when the community recognizes it by activating for its care. As Mattei says, common good is concretized in the qualitative relations between object (urban space) and subject (individuals).

From the state of the art and the analysis of the main differences between public, private and common resources it is possible to trace the ontological and general features of the urban commons, which are illustrated in figure 1.

In particular:

- *Object resource*. The concept of the common good refers to that of resource, an element or set of elements that can be used by an individual to satisfy his needs. Resources are useful (indispensable for human needs, living beings and ecosystem satisfaction) and scarce (insufficient compared to the requirements). The resources, useful and scarce, are precious elements to protect and to pass on to future generations in accordance with the principle of sustainability;

- *Subject group of individuals.* Presence of individuals who gravitate around the resource for interests of different nature (economic, social, environmental). This is an essential feature because it involves the recognition of resource value by a group of people who are committed to its care;
- *Interactions.* Between subject and object are established direct relations (relating to the actions that individuals perform on the resource) and indirect (typically socio-economic relations) among the various subjects involved. At the same time, these actions produce effects for surrounding urban environment and landscape.

		SUBJECTS			
		OWNERSHIP		USE	CARE
RESOURCE	PUBLIC				
	PRIVATE				
	COMMON		or		
LEGEND					
	Public subject		Private subject		Collectivity of subjects

Tab.1 Differences between public, private and common resources

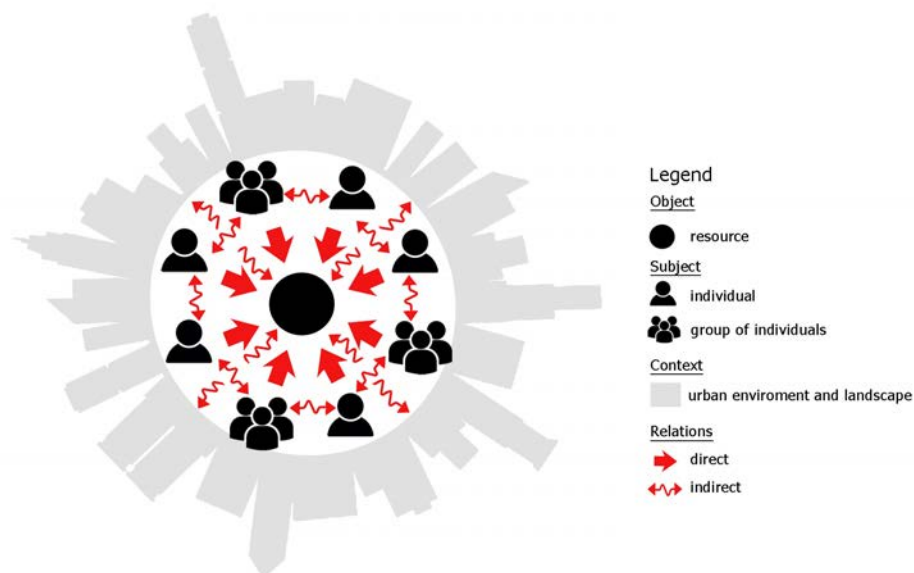


Fig.1 Urban common scheme

3.2 SPECIFIC FEATURES

Later, the research work focuses on specific characteristics which are traced from the general ones. In particular, it refers to specific urban resources, sites for activating communities actions: the urban spaces. It examines urban spaces of different scale (macro and micro) that involve different stakeholders. At macro level, the brownfields are precious resources both for the position (located in strategic urban contexts close to central and high-density areas) and for the presence of urbanization development works. For these reasons, they represent the places of resilience and experimentation to regenerate and reconvert with new functions and activities. At micro level, open spaces, if properly upgraded or in a suitable state of conservation, provide a range of benefits. They represent the places of social relations to be enhanced (i. e. parks and green areas, squares, play areas, school playgrounds, vacant lots). The specific characteristics are divided into physical, social and relational. The physical features refer to those necessary for the resource to be used; social ones are attributes of individuals which use the resource. Finally, the relational characteristics refer to direct and indirect relations that are established among resource, individuals and urban environment and landscape.

Physical specific features:

- *Accessibility*. From the physical point of view, accessibility indicates the possibility of physical and secure access to a resource. This parameter implies the connection of the urban space with the surrounding context and its integration within the city system through an efficient network of infrastructures for fast and soft mobility. Moreover, an accessible resource must allow entry to different users, especially the weak ones (children, elderly, user with mobility and sensory impairments);
- *Quality*. The quality of a resource refers to its state of conservation, in particular to attributes such as order, tidiness. Quality is a necessary feature for an optimal resource use to be pursued and maintained through an efficient management and maintenance way;
- *Reversibility*. Spatial reversibility implies the return to a previous condition or to the original state after an activity cessation. The reversible interventions are based on experimentation periods, thanks to which it is possible to evaluate their degree of success and to make decisions regarding possible changes, the return to original state or the transition to a permanent one;
- *Flexibility*. The 'ability' of an urban resource to physically edit in order to adapt to user needs.

Social specific features:

- *Mix of stakeholders*. The subjects that gravitate around an urban resource can be both public and private. In particular, public actors refer to the administrative sphere, while private actors refer to citizens (alone or in groups), non-profit organizations and businesses. The presence of different subjects consequently implies that of different interests: general (referring to the whole community) and specific (referring to the individual actors). Often, the satisfaction of general interests also entails specific benefits (i.e. improvement the quality of life);
- *Mix of knowledge*. Combination of expert knowledge and common knowledge. Expert knowledge concerns actors who transform their professional competence and cognitive inputs (data, information, concepts, etc.) into output knowledge with added value (problem solutions, innovative ideas, experimental projects). These are intellectuals, members of public administrations, entrepreneurs, professionals, technicians. Common knowledge refers to communities knowledge. Urban commons are experiences that arise from the union of both knowledge in order to address specific tasks or to solve collective problems;
- *Cultural diversity*. The term culture diversity is a fact of contemporary urban contexts: the presence on a territory of multiple cultures. This specific feature can increase the value of an urban commons because it makes a resource identifiable and recognizable by people from different cultural backgrounds;

- *Inclusion*. Feature that implies a free and non-exclusive use of the resource, that is not limited to a few or to a small group of individuals. Social inclusion means ensuring to each individual (regardless of age, gender, ethnicity, etc.) the fruition of the resource, eliminating any form of fence.

Relational specific features:

- *Mix of uses (direct)*. Use refers to resource fruition by a subject in order to satisfy a need. From a temporal point of view, use is distinguished in permanent (long-term) or temporary (short-term). In contemporary urban contexts, characterized by continuous changes and transformations, temporary uses are becoming an increasingly important aspect. "*Temporary uses are flourishing both in the in-between spaces where there is flexibility in the rigors of the property market, and in areas where multi-use is feasible. Some uses are planned an formal; some are informal, accidental, spontaneous or even illegal. Some occur when a city is shrinking, some when it is growing. Some uses last for a night or weekend, some are seasonal, while others may last five years or more. Some are acts of political defiance, while some are government interventions*" (Bishop, Williams, 2012). The urban commons are spaces for collective uses and, therefore, they allow the carrying out of different activities (social, economic, cultural, educational, artistic, recreational, sports, etc.);
- *Social interactions (derived)*. Interactions of social nature that are created as a result of individuals in relations with each other. Social interactions facilitate cooperation and produce mutual benefits such as information sharing, collective action, decision-making ability and the reduction of opportunistic behavior. The set of relations generates a form of wealth based on human needs: the social capital;
- *Interactions with urban environment and landscape (derived)*. The environment refers to ecosystem and its elements. Natural environment (characterized by the prevalence of nature compared to anthropic action) and urban one (entirely produced and transformed by man) constitute the components of the human environment. "*The urban environment influences human well-being, therefore, a healthy, supportive environment is indispensable to quality of life in cities. People need to breathe clean air, have access to clean drinking water and adequate housing conditions and enjoy quiet and peaceful places. Accessible, good quality, well-maintained green spaces and playgrounds, modern transport systems and safe, walkable neighbourhoods that encourage physical activity and social interactions are key constituents of urban quality of life*" (European Environment Agency, 2009). The landscape is understood as a set of elements that contribute to analyze the place through its environmental, social, historical and geographical peculiarities, but also through identity and cultural values that characterize it. "*Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*" (European Landscape Convention, 2000). The actions undertaken by the subjects on the resources involve effects both in terms of urban ecosystem quality, as well as in terms of identity, recognition and enhancement of the city landscape.

4 CASE STUDIES: URBAN COMMONS FOR RESILIENCE

In order to verify the consistency of the characteristics traced and to define the resilience of these specific urban commons, the research analyzes the case studies database created by Francesca Ferguson (2014). The choice of the database is mainly due to several reasons:

- *Geographic context*. The analyzed case studies belong to European contexts, in particular Northern European cities which appear more advanced on the issue of collective management of urban resources. Moreover, from the urban morphology point of view, these contexts present some analogies with the Italian one;
- *Reference scale*. The database considers examples both at the macro and at the micro level;
- *Heterogeneity*. Wide range of actions on urban spaces both permanent and temporary;
- *Specific information*. Data deriving from interviews with the main stakeholders.

In particular, the analyzed case studies are: Superkilen, Copenhagen (I); Tempelhofer Feld, Berlin (II); Prinzessinnengärten, Berlin (III); NDSM wharf, Amsterdam (IV); R-URBAN, Paris (V); Hackney Wick & Fish Island, London (VI); Freehouse, Rotterdam (VII); Geopark, Stavanger (VIII); Plaza Ecópolis, Rivas-Vaciamadrid (IX); Southwark Lido, London (X). Within this paper three examples (I,II,III) are deepened because considered substantial for aspects that will be discussed in the next paragraph. For each case study selected, specific characters are evaluated through the checklist method.



Fig. 2 - 3 Case studies I, II



Fig. 4 - 5 Case studies III, IV



Fig. 6 - 7 Case studies V, VI



Fig. 8 - 9 Case studies VII, VIII



Fig. 10 - 11 Case studies IX, X

4.1 CASE STUDY I: SUPERKILEN, COPENHAGEN (DK)

The urban space Superkilen (Fig. 2) is located north of the city center of Copenhagen and it develops along a strip of land that has been abandoned for decades due to railway line dismantlement. In 2008, the City of Copenhagen with the support of Realdania, a private association supporting philanthropy initiatives, launched a competition call for the realisation of an urban park able to foster the integration of ethnic groups in the area.

The winning project, resulting from the collaboration of architecture and landscape studios, involved the local population through consultation activities such as meetings and workshops. The participatory process covered both the preliminary phases of political and planning discussion and the subsequent phases of organization and management. Superkilen is an urban park characterized by a sequence of spaces destined to different cultural, commercial, recreational and sports activities. Moreover, a broad infrastructure plan was elaborated in order to reorganize mobility system and to connect the area with neighbouring districts by pedestrian and cycle paths (Ferguson, 2014; Archdaily; Realdania; Superflex).

Features that contribute to resilience (7): From physical point of view the conversion of an area from abandoned piece of land to an urban place (*quality*) and the possibility to adapt urban space to different activities (*flexibility*); from the social point of view the presence of expert and common knowledge (*mix of knowledge*) and of different cultures (*cultural diversity*); from the relational point of view, the possibility of using space for different activities (*mix of uses*), the cooperation and information sharing (*social interaction*) and the improvement of surrounding landscape increasing place identity and recognizing (*interactions with the environment and the urban landscape*).

Physical	Accessibility	✓	Safely accessible area in thanks to an infrastructure plan that reorganize mobility system and to connect the area with neighbouring districts by soft mobility paths
	Quality	✓	Abandoned area converted into an available urban space
	Reversibility	×	Permanent urban space
	Flexibility	✓	Possibility to edit some spaces in order to accomodate difference funtions
Social	Mix of stakeholders	✓	Public – Copenhagen City Private – Realdania (association); Topotek 1, BIG Architects, Superflex (designers); local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration, designers Common Knowledge – Local population
	Cultural diversity	✓	Over 50 ethnic groups involved in the process
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Cultural, commercial, recreational and sports activities
	Social interactions	✓	Sharing information and knowledge; cultural exchanges
	Interactions with urban environment and landscape	✓	New relationships with adjacent buildings and suburban streets; site attractiveness

Tab.2 Superkilen: check list analysis

4.2 CASE STUDY II: TEMPELHOFER FELD, BERLIN (D)

In 2008, following the closure of the Tempelhof airport, the city of Berlin purchased the vast urban space of 386 hectares for public use. Thanks to its strategic position (about 5 km from the city center) and the presence of countless activities, the Tempelhof park (Fig. 3) has become popular among residents and visitors.

The private company responsible for urban space development decided to integrate pioneering uses (small-scale and short-term initiatives experimented by the local population) into the planning process. The concept of the area, arising from the collective architecture of Raumlaborberlin together with the Berlin government and Urban Catalyst Studio, ranges from long-term planning to temporary practices. The spaces are demarcated according to the activities: areas for children and young people education, spaces for sport and leisure, buildings for cultural uses and a cluster for small temporary gardens. In 2013, the masterplan for the construction of new urban districts along the perimeter of the park, generated pressure from citizens that through a referendum decided to maintain the green area. In 2014, a statute based on a process that allow the integration of community initiatives enters into force regulating the park conservation and development (Ferguson, 2014; Raumlaborberlin).

Features that contribute to resilience (7). From physical point of view, the conversion of an disused site into an urban park (*quality*); the possibility to pioneer uses (*reversibility*) and to edit space for different activities (*flexibility*); from the social point of view, expert knowledge and common union (*mix of knowledge*); from the relational point of view, the possibility of using space for different activities (*mix of uses*), experimental practices and knowledge sharing (*social interaction*) and improvement of environment quality and the urban ecological value (*interactions with the environment and the urban landscape*).

Physical	Accessibility	✓	Accessible area by public transport; presence of access points with opening hours that depending on the season
	Quality	✓	Reconversion of a disused site; periodic monitoring of conservation state
	Reversibility	✓	Pioneering uses based on experimentation periods
	Flexibility	✓	Editable space designed to host different kind of events
Social	Mix of stakeholders	✓	Public – Berlin Municipality Private – Studio Urban Catalyst; Tempelhofer Projekt GmbH (designers); local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration, designers Common Knowledge – Local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Sports, recreational and cultural activities
	Social interactions	✓	Sharing of experimental practices and knowledge; collective action; decision-making ability
	Interactions with urban environment and landscape	✓	Improvement of surrounding environmental quality; increase of the urban ecological value and site attractiveness

Tab.3 Tempelhofer Feld: check list analysis

4.3 CASE STUDY III: PRINZESSINNENGÄRTEN, BERLIN (D)

In 2009, the non-profit company Nomadisch Grün, engaged in the dissemination of practices of urban gardens, launched a pilot project in a public area of Berlin that had been abandoned for several years. The project for Prinzessinnengärten community garden (Fig. 4) is based on an unplanned and gradual development process that has led from the initial phase of site setting up to a virtuous experience of urban agriculture.

The solution, resulting from the support of activists and volunteers network and discussed through various means (media, meetings and petitions), is a mobile garden to be moved in case of site future privatization. It allows the combination of different social, economic, learning and local production activities and temporary uses. Furthermore, Prinzessinnengärten is an informal learning place where skills are acquired through practical experience and knowledge sharing. With this project, the Nomadisch Grün's organization intends to provide opportunities for learning and participation, to increase the productivity and attractiveness of the neighbourhood and to experiment new experiences of urban resources community management (Ferguson, 2014, Prinzessinnengärten, Open Berlin).

Features that contribute to resilience (7). From physical point of view, the improvement of the state of affair and site regeneration (*quality*); the possibility to move the intervention according to future changes (*reversibility*), to edit space for different kind of events (*flexibility*); from the social point of view, the presence of expert knowledge and common (*mix of knowledge*) and the involvement of different culture people (*cultural diversity*); from the relational one, the possibility to use space for different uses (*mix of uses*), to learn and exchange information (*social interaction*) and improvement of sustainability of territory environment quality and the urban ecological value (*interactions with the environment and the urban landscape*).

Physical	Accessibility	✓	Easily accessible area by public transport system (bus, underground)
	Quality	✓	Improvement of the state of affairs and land regeneration
	Reversibility	✓	Designed to be moved in case of site privatization
	Flexibility	✓	Editable space designed to host different kind of events
Social	Mix of stakeholders	×	Private - Nomadisch Grün
	Mix of knowledge	×	Common Knowledge – Population and local associations
	Cultural diversity	✓	Events and learning projects involving experts from different cultures
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Recreational, cultural, educational, productive, gardening and agriculture activities
	Social interactions	✓	Learning and educational activity; exchange of skills and knowledge; shared activities
	Interactions with urban environment and landscape	✓	Improvement of surrounding environmental quality; new identities creation

Tab.4 Prinzessinnengärten, Berlin (D): check list analysis

4.4 CASE STUDY IV: NDSM WHARF, AMSTERDAM (NL)

Physical	Accessibility	✓	Accessible area by public transport (bus, ferry, subway)
	Quality	✓	Disused buildings converted into spaces for the new activities incubation
	Reversibility	✓	Project based on tests, experiments and experiences selection
	Flexibility	✓	Adaptability of spaces within the building envelope
Social	Mix of stakeholders	✓	Public – Amsterdam Noord borough Private – Kinetisch Noord (group of artists, artisans and non-profit organizations); Vereniging NDSM (user association); Project Organization (organization), local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration Common Knowledge – user associations, local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Craft, creative, sporting, recreational and cultural activities
	Social interactions	✓	Social cohesion; information sharing; cooperation
	Interactions with urban environment and landscape	✓	Increase of surrounding context attractiveness which becomes a new centrality around which to realize the new cultural and artistic city center

Tab.5 NDSM wharf: check list analysis

Features that contribute to resilience: 7.

4.5 CASE STUDY V: R-URBAN, PARIS (F)

Physical	Accessibility	✓	Proximity to public transport (railway, bus, underground)
	Quality	✓	Urban voids enhancement through new uses
	Reversibility	✓	Temporary urban spaces located on leased land for a short period
	Flexibility	×	Each space has a specific function for network
Social	Mix of stakeholders	✓	Public – Colombes Municipality, Institutions at local and national level Private – local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration, Institutions at local and national level Common Knowledge – local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Educational, recreational, sporting, recreational and cultural activities
	Social interactions	✓	Knowledge and skills exchange within the community; cooperation
	Interactions with urban environment and landscape	✓	Increase of urban sustainability and local productivity; new identities creation

Tab.6 R-URBAN: check list analysis

Features that contribute to resilience: 6.

4.6 CASE STUDY VI: HACKNEY WICK & FISH ISLAND, LONDON (UK)

Physical	Accessibility	✓	District characterized by efficient transport networks (railway lines, fast and slow mobility infrastructures, canals)
	Quality	✓	Regeneration of disused spaces and buildings
	Reversibility	✓	Temporary projects for existing spaces and buildings
	Flexibility	✓	Adaptive use of existing spaces and buildings for new functions
Social	Mix of stakeholders	✓	Public – London Legacy Development Corporation Private – Muf architecture/art e J&L Gibbons (designers); Public Works (non-profit organisation); local community
	Mix of knowledge	✓	Expert Knowledge – Public Administration, designers Common Knowledge – local community
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Entrepreneurial, recreational, cultural and sporting activities
	Social interactions	✓	Neighbourhood community creation; collaboration between different users; district spaces sharing
	Interactions with urban environment and landscape	✓	Enhancement of local resources; regeneration of existing building heritage; identity place creation

Tab.7 Hackney Wick & Fish Island: check list analysis

Features that contribute to resilience: 7.

4.7 CASE STUDY VII: FREEHOUSE, ROTTERDAM (NL)

Physical	Accessibility	✓	Urban area served by public transport (railway, underground)
	Quality	✓	Conversion of abandoned buildings and urban spaces; activation of a local cleaning service
	Reversibility	✓	Experimentation of creative practices and new services
	Flexibility	✓	Editable spaces to different functions
Social	Mix of stakeholders	×	Private – Freehouse (association), Skillcity Rotterdam (designer), Afrikaander Neighbourhood (cooperative), local population
	Mix of knowledge	✓	Expert Knowledge – Freehouse, Skillcity Rotterdam Common Knowledge – Afrikaander Neighbourhood, local population
	Cultural diversity	✓	Involvement of multicultural district population
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Entrepreneurial, artistic and cultural activities
	Social interactions	✓	Co-production of urban environment, cultural and ideas exchanges, creativity, cultural awareness
	Interactions with urban environment and landscape	✓	Increase of local identity and urban attractiveness

Tab.8 Freehouse: check list analysis

Features that contribute to resilience: 8.

4.8 CASE STUDY VIII: GEOPARK, STAVANGER (N)

Physical	Accessibility	✓	Accessible area by local public transport (bus) and private mobility network (parking closer to the site)
	Quality	✓	Reconversion of an urban void into an urban park
	Reversibility	✓	Tested project that from temporary space (5 years) will become permanent one
	Flexibility	×	Space designed for recreational and playful functions
Social	Mix of stakeholders	✓	Public – Stavanger Municipality Private – Norwegian Petroleum Museum Friendship Society (sponsor), Helen & Hard (designer), local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration, designers Common Knowledge – local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Sports, recreational and cultural activities
	Social interactions	✓	Sharing ideas for park creation; local social resources activation during design process
	Interactions with urban environment and landscape	✓	Urban identity creation; transformation of previous abandoned waterfront into a space for community; increase in site attractiveness

Tab.9 Geopark: check list analysis

Features that contribute to resilience: 6.

4.9 CASE STUDY IX: PLAZA ECÓPOLIS, RIVAS-VACIAMADRID (ES)

Physical	Accessibility	✓	Accessible area by public transport (bus); protected space by adjacent industrial context
	Quality	✓	Transformation of a disused site into a space for social interaction
	Reversibility	×	Permanent urban space
	Flexibility	✓	Editable spaces to different functions
Social	Mix of stakeholders	✓	Public – City Council of Rivas-Vaciamadrid Private – Ecosistema Urbano (designers), local population
	Mix of knowledge	✓	Expert Knowledge – Public Administration, designers Common Knowledge – Local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	Educational, recreational and cultural activities
	Social interactions	✓	Citizens collaboration to shape the local space; urban collector space for social relations
	Interactions with urban environment and landscape	✓	Improvement of surrounding environmental quality; sustainability increase through energy efficiency systems; identity place creation

Tab.10 Plaza Ecópolis: check list analysis

Features that contribute to resilience: 6.

4.10 CASE STUDY X: SOUTHWARK LIDO, LONDON (UK)

Physical	Accessibility	✓	Accessible area by public transport (bus, underground)
	Quality	✓	Reconversion of a parking lot in community space
	Reversibility	✓	Urban space transitory from an original function (parking lot) to a future one (residential area)
	Flexibility	✓	Adaptive reuse of an urban space
Social	Mix of stakeholders	×	Private – Zogolovitch (property owner); EXYZT, Wayward (designers); local population
	Mix of knowledge	✓	Expert Knowledge – designers Common Knowledge – Local population
	Cultural diversity	–	Date not available
	Inclusion	✓	Inclusive space. Open Access resource
Relational	Mix of uses	✓	2008: recreational, cultural activities 2010: agriculture activities 2011: gardening, artistic and cultural activities
	Social interactions	✓	Collaboration between users; opportunity to redefine a local community; ideas and skills exchanges
	Interactions with urban environment and landscape	✓	Local context enhancement and attractiveness; identity place creation

Tab.11 Southwark Lido: check list analysis

Features that contribute to resilience: 7.

4.11 EMERGING INDICATIONS

The indications emerging from the case studies analysis are shown in the following table. With the exception of cultural diversity feature, it is possible to note a good homogeneity of urban commons characteristics. In particular, the right column reports the percentages related to the features presence in the analyzed examples.

Case studies											
Specific features	I	II	III	IV	V	VI	VII	VIII	IX	X	%
Accessibility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%
Quality	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%
Reversibility	x	✓	✓	✓	✓	✓	✓	✓	x	✓	80%
Flexibility	✓	✓	✓	✓	x	✓	✓	x	✓	✓	80%
Mix of stakeholders	✓	✓	x	✓	✓	✓	x	✓	✓	x	70%
Mix of knowledge	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	90%
Cultural diversity	✓	–	✓	–	–	–	✓	–	–	–	30%
Inclusion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%
Mix of uses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%
Social interactions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%
Interactions with urban environment and landscape	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%

Tab.12 Summary of check list analysis

5 THE VALUE OF URBAN COMMONS FOR RESILIENT SYSTEMS

The analysis of case studies brings out some remarks regarding urban commons role for increasing city resilience. The first remark concerns general features and, in particular, the role of local social component (individuals, communities and entire society). The subjects involved in the place-making processes acquire an active role mobilizing their reactive, adaptive and proactive capacities and in this way contributing to care and development of urban resources. In these situations, the good (public or private) becomes common because the social component is active in resource care through several fruition and protection way. The care by individuals is an indicator of resource collective value and, consequently, of urban value of the same. In Superkilen (case study I) the local population it is involved both during the planning phase through consultation activities such as meetings and workshops and in the organization and management phases. In the case study II (Tempelhofer Feld) the society is active by experimenting with temporary uses of the resource and protecting it from building. Finally, in the example of Prinzessinnengärten (case study III), the local community, gathered in association form, acts spontaneously becoming responsible for the site development process.

The second remark concerns the urban commons specific features more relevant for resilience. In particular:

- *Quality* (100%). The urban resource conversion from abandoned/underused area to urban space for communities is an expression of social component reactive abilities to remedy the inevitable area degradation. In example, Superkilen urban space (case study I) is located on an area previously destined for railway line that had been abandoned for years; Prinzessinnengärten (case study III) occupies a city urban void reconverted into a collective urban garden. Resource quality is recurrent feature in the analyzed case studies;
- *Reversibility* (80%). The possibility of experimenting with temporary uses in order to verify the most suitable for specific case helps to increase resilience because it implies greater adaptability over time to social needs. This feature refers to temporary space as solutions both to temporarily fill urban voids (case studies III, V, VI, VIII, X) and as opportunities to experiment with alternative practices (case study II, IV, VII);
- *Flexibility* (80%). The possibility to adapt the physical space or its parts according to user needs. In example, some areas of Superkilen are designed to accommodate various functions (such as market,

- sports and events); NDSM wharf represents an adaptive reuse example within which buildings are edited to accommodate different functions;
- *Mix of knowledge* (90%). The union of expert knowledge and common in order to solve collective problems and the ability to find alternative solutions is a characteristic that shows the proactive abilities of social component. Except for the case study III, this feature is recurring in the case studies analyzed where both experts (i.e. Public Administration, designers) and the local population (individuals or groups of citizens) are involved;
 - *Cultural diversity* (30%). Peculiarities of actors involved that contribute to creating opportunities for cultural exchange and skills development and to adapt the space to different cultures needs. Cultural diversity is present in three of analyzed cases (I, III, VII) in which multiethnic society is involved in different process phases generating an identity space for different ethnic groups;
 - *Mix of uses* (100%). The possibility of using space for different types activities implies the ability to adapt it to different needs at the same time. This characteristic is present in all the case studies in which the interventions on urban space are aimed to host different activities;
 - *Social interactions* (100%). The cooperation and sharing of information are actors' proactive capacities that allows exchanges of information, new skills production, creativity, innovation applied to urban resources. In some analyzed cases information sharing takes place through specific educational or training activities organized (case studies III, IV, IX);
 - *Interactions with the environment and the urban landscape* (100%). The undertaken actions generate effects for urban environment and surrounding landscape quality. In example, the creation/maintenance of green areas (case studies I, II, III, V, IX, X) generates positive effects for the surrounding urban environment, such as the mitigation of the local microclimate and the increasing of ecosystem ecological quality. In all case studies analyzed, these experiences bring improvements to local landscape in terms of enhancement and identity.

6 CONCLUSIONS

The research shows that many of urban common characteristics contribute to resilience. For this reason, it is possible to state that "urban commons are social resilience based" and they reinforce social component capacities. Through the mobilization of actors abilities, urban commons become alternative solutions to deadlock situations aimed to shape urban space by adapting it to different needs. This aspect gives dynamism and liveliness to urban resource, key characteristics in contexts characterized by continuous and sudden changes. At the same time, they become opportunities for the creativity, innovation and new knowledge development generated by the meeting of different skills and cultures.

Moreover, these phenomena bring positive externalities for local context improving the quality of the environment and the urban landscape. They represent sustainable solutions for different uses and activities of which people can benefit from alongside the services provided by state and market. By satisfying collective needs, they become new urban polarities able to attract city users. Therefore, urban commons are valuable forms of wealth arise from the interaction between social components and physical city to protect, to enhance and to support. For these reasons, the research will have to investigate how to start processes aimed to create urban commons and how to structure planning systems in order to foster these social resilience based phenomena.

REFERENCES

Adger, W.N. (2000). Social and ecological resilience: are they related? *Progress in Human Geography*, 24, 347-364. doi:<http://dx.doi.org/10.1191/030913200701540465>

- Arena, G., & Iaione, C. (2015). *L'età della condivisione. La collaborazione fra cittadini e amministrazione per i beni comuni*. Roma: Carrocci.
- Batty, M. (2005). *Cities and complexity: understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Massachusetts: The MIT Press.
- Bertuglia, C.S., & Staricco, L. (2000). *Complessità, autorganizzazione, città*. Milano: Franco Angeli.
- Bertuglia, C.S., & Vaio, F. (2011). The complexity approach to the study of urban systems. In: C. Beguinot (Ed.), *The city crisis ...for a UN world conference ...for a UN resolution* (pp. 500-515), Series of Urban Studies, XXXII.
- Blackmar, E. (2006). Appropriating "the commons": the tragedy of property right discourse. In: L. Setha & S. Neil (Eds.), *The politics of public space* (pp. 49-80). New York: Routledge.
- Bishop, P., & Williams, L. (2012). *The temporary city*. London: Routledge. doi:<https://doi.org/10.1080/17535069.2012.762228>
- Blečić, I., & Cecchini A. (2016). *Verso una pianificazione antifragile. Come pensare al futuro senza prevederlo*. Milano: Franco Angeli.
- Bohle, H.G., Etzold, B., & Keck M. (2009). Resilience as agency. *IHDP-Update*, 2, 8-13.
- Borch, C., & Kornberger, M. (2015). *Urban commons. Rethinking the city*. New York: Routledge.
- Brunetta G., & Baglione V. (2013), Resilience in the transition towns movement. Towards a new urban governance. *TeMA, Journal of Land Use, Mobility and Environment*, 6(2), 251-263. doi:<http://dx.doi.org/10.6092/1970-9870/1524>
- Calcagno Maniglio, A. (n. d.), *Conoscenza e analisi del paesaggio*. Retrieved from www.architettilroma.it/monitor/d/didatticaurbana/calcagno_conoscenza_analisi_paesaggio.html. Last access March 2018.
- Carpenter, S.R., Westley, F., & Turner, M.G. (2005). Surrogate for resilience of social-ecological system. *Ecosystems*, 8, 941-944. doi:<https://doi.org/10.1007/s10021-005-0170-y>
- Colucci A. (2012). Towards resilient cities. Comparing approaches/strategies. *TeMA, Journal of Land Use, Mobility and Environment*, 5(2), 101-116. doi:<http://dx.doi.org/10.6092/1970-9870/921>
- Council of Europe (2000). European landscape convention. Florence, 20 October. Retrieved from www.convenzioneeuropeapaesaggio.beniculturali.it. Last access July 2018.
- European Environment Agency-EEA (2009). *Ensuring quality of life in Europe's cities and towns*. Retrieved from www.eea.europa.eu/publications/qualityof-life-in-Europes-cities-and-towns. Last access July 2018.
- Ferguson, F. (2014). *Make_shift city. Renegotiating the urban commons*. Berlin: Jovis.
- Foster, S.R., & Iaione, C. (2016). The city as a commons. *Yale Law and Policy Review*, 34, 281-349. doi:<http://dx.doi.org/10.2139/ssrn.2653084>.
- Frank, R.H., Bernanke, B.S., McDowell, M., Thom, R., & Pastine, I. (2012). *Principles of economics* (3rd edition). New York: McGraw-Hill.
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162, 1243-1248. doi:<http://dx.doi.org/10.1126/science.162.3859.1243>
- Harvey, D. (2011). The future of the commons. *Radical History Review*, 109, 101-107. doi:<https://doi.org/10.1215/01636545-2010-017>
- Hess, C., & Ostrom, E. (2007). Introduction: an overview of the knowledge commons. In: C. Hess & E. Ostrom (Eds.) *Understanding knowledge as a commons: from theory to practice* (pp. 3-26). Cambridge, Massachusetts: The MIT Press.
- Iaione, C. (2015). Governing the urban commons. *Italian Journal of Public Law*, 7, 170-221.
- Istituto nazionale di statistica - Istat (2015). *Urbes. Il benessere equo e sostenibile nelle città*. Retrieved from www.istat.it. Last access July 2018.

Mattei, U. (2011). *Beni comuni un manifesto*. Bari: Laterza.

Moroni, S. (2015). Beni di nessuno, beni di alcuni, beni di tutti: note critiche sull'incerto paradigma dei beni comuni. *Scienze Regionali*, 14(3), 137-144. doi:<http://dx.doi.org/10.3280/SCRE2015-003008>

Nijkamp, P., & Reggiani, A. (1998). *The economics of complex spatial systems*. Amsterdam: Elsevier.

Newman, P. (2010). Resilient cities. Retrieved from www.espace.library.curtin.edu.au. Last access July 2018.

Obrist, B., Pfeiffer, C., & Henley, R. (2010). Multi-layered social resilience: a new approach in mitigation research. *Progress in Development Studies*, 10(4), 325-343. doi:<http://dx.doi.org/10.1177/146499340901000402>

Ostrom, E. (1990). *Governing the commons. The evolution of institutions for collective action*. Cambridge: University Press. doi:<http://dx.doi.org/10.1017/CBO9780511807763>

Papa R. (2012). Editorial preface: resilient cities. *TeMA, Journal of Land Use, Mobility and Environment*, 5(2), 5-6. doi:<http://dx.doi.org/10.6092/1970-9870/1156>

Portugali, J. (2013). *What makes city complex?* Retrieved from www.spatialcomplexity.info. Last access April 2018.

Pumain, D., Sanders, L., & Saint-Julien, T. (1989). *Villes et auto-organisation*. Paris: Economica.

Rodotà, S. (2012). Beni comuni: una strategia globale contro lo human divide. In: M.R. Marella (Ed.), *Oltre il pubblico e il privato. Per un diritto dei beni comuni* (pp. 311-332). Verona: Ombre Corte.

Susser I., & Tonnelat S. (2013). Transformative cities: the three urban commons. *Focaal: Journal of Global and Historical Anthropology*, 66, 105-132. doi:<http://dx.doi.org/10.3167/fcl.2013.660110>

Archdaily, Superkilen-Topotek 1 + BIG Architects + Superflex. Retrieved from www.archdaily.com/286223/superkilen-topotek-1-big-architects-superflex. Last access March 2018.

Berlin Municipality, Park TempelhoferFeld. Retrieved from www.berlin.de/en/parks-and-gardens/3561883-4407152-park-tempelhofer-feld.en.html. Last access March 2018.

Grün-Berlin Gruppe, TempelhoferFeld. Retrieved from www.gruen-berlin.de/en/tempelhofer-feld. Last access February 2018.

Open Berlin, Nomadisch Grün gemeinnützige GmbH. Retrieved from www.openberlin.org/users/nomadisch-gr%C3%BCn. Last access March 2018.

Prinzessinnengärten. Retrieved from www.prinzessinnengarten.net/about/. Last access March 2018.

Public Space, Superkilen. Retrieved from www.publicspace.org/en/works/g057-superkilen. Last access March 2018.

Realdania. Retrieved from www.realdania.org/. Last access March 2018.

Raumlaborberlin, Tempelhof. Retrieved from www.raumlabor.net/tempelhof/. Last access March 2018.

Superflex, Superkilen. Retrieved from www.superflex.net/tools/superkilen/image. Last access March 2018.

IMAGE SOURCES

Fig. 1: created by the author.

Fig. 2, 3, 4, 9: Flickr (www.flickr.com).

Fig. 5: ABQ Warehouse District (celladdition.wordpress.com).

Fig. 6: Muf architecture/art (muf.co.uk).

Fig. 7: R-URBAN (r-urban.net).

Fig. 8: Labyrinthonderzoek (www.labyrinthonderzoek.nl).

Fig. 10: Ecosistema Urbano (ecosistemaurbano.com).

Fig. 11: The reunion (reunionsouthwark.wordpress.com).

AUTHOR'S PROFILE

Giula Esopi is Ph.D. candidate in Civil Engineering and Architecture, University of Pavia. She has collaborated with Urban Project Laboratory of the University of Pavia since September 2014. She has played assistance to Urban Planning course (University of Pavia) since 2015. She received a master degree in Building Engineering and Architecture with a thesis about 'The porous city: an intervention method for open spaces regeneration'.