PLEA
STGO
2022

November 22 - 25, 2022

WILL CITIES SURVIVE?

The future of sustainable buildings and urbanism in the age of emergency.

BOOK OF PROCEEDINGS VOL 1 ONLINE SESSIONS

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PLEA STGO 2022: WILL CITIES SURVIVE?

ABOUT

PLEA Association is an organization engaged in a worldwide discourse on sustainable architecture and urban design through annual international conferences, workshops and publications. It has created a community of several thousand professionals, academics and students from over 40 countries. Participation in PLEA activities is open to all whose work deals with architecture and the built environment, who share our objectives and who attend PLEA events.

PLEA stands for "Passive and Low Energy Architecture", a commitment to the development, documentation and diffusion of the principles of bioclimatic design and the application of natural and innovative techniques for sustainable architecture and urban design.

PLEA serves as an open, international, interdisciplinary forum to promote high quality research, practice and education in environmentally sustainable design.

PLEA is an autonomous, non-profit association of individuals sharing the art, science, planning and design of the built environment.

PLEA pursues its objectives through international conferences and workshops; expert group meetings and consultancies; scientific and technical publications; and architectural competitions and exhibitions.

Since 1982 PLEA has been organizing highly ranked conferences that attract both academia and practicing architects. Past Conferences have taken place in the United States, Europe, South America, Asia, Africa and Australia.

After almost a decade the PLEA conference is coming back to South America, Santiago (Chile), to be organized by the Pontifical Catholic University of Chile (PUC). Inevitably, the theme of PLEA 2022 is inspired by the current pandemic which has put the whole world on alert and makes us rethink our built environment in terms of health and safety. Whereas due to its current social unrest and significant social divide Santiago and South America in general provides a great ground to talk about inequalities and revisit social movements, that spanned around the globe from Lebanon, France to Chile and other countries just before the pandemic hit.

The aim of the PLEA 2022 is to question the whole idea of a city, the way we inhabit and use them generating the definitive inflection point that a sustainable city requires.

GOAL AND THEME

For decades, the climate crisis has been demanding our action and commitment. Numerous efforts to reach an international consensus via climate summits, such as COP25, and Paris Agreement have not had any expected results yet. However, even though the COVID-19 pandemic has intensified the sense of urgency, many talks about climate change were put on hold during 2020, when the new virus put the world on alert.

In no time it has become a global issue and provoked various reactions from political leaders around the world—from absolute denial to the harshest restrictions—adjusting and learning in the process by trial and error.

This process has not been easy as COVID-19 highlighted critical deficiencies in our built environment and urban design. Even though infections battered affluent areas too, the pandemic hit the hardest when the virus reached sectors with high rates of poverty. Dense neighborhoods and overcrowded buildings could facilitate the rapid spread of infections due to the difficulty of generating social distancing and the application of extensive quarantines.

Yet, various changes have been adopted rapidly. Hygiene protocols, wearing masks, social distancing and other strategies has become part of our ordinary life. On top of that, the use of public spaces, streets, parks, homes and all buildings had to be adjusted to control the spread of the virus transforming our habits and conception of them. Numerous studies showed great variations in the use of transportation during the pandemic too. But the questions are: are those changes here to stay? What does the future hold for our built environments?

Some even go as far as to question: Will cities survive? While many intellectuals and academics call for the end of cities (at least as we know them), some stakeholders urge to return to normality, or so-called status quo.

Is this the last opportunity to effectively build a healthy, livable and equitable city? It is clear that cities can no longer be conceived as before and it is time to question the way we inhabit and use them. What are the standards, mechanisms and criteria to define a sustainable city and building? Do they respond to the problems and deficiencies in the age of emergency? History shows us how cities reacted to and changed after health crises similar to COVID-19; this is the time to question everything around us and strive for environmentally sustainable and socially just cities.

The aim of PLEA 2022 is to be a relevant part of the discussion and bring about proposals to the developing and developed world. It is a great chance to talk about the changes that affected cities around the globe since the start of the pandemic and bring the scientific knowledge generated in this short time to the discussion.

Social inequality should also be a part of the debate as both health and climate emergencies may further increase the injustice and, at the same time, the inequality may make such crises worse. Latin America, as the most unequal region, and Chilean case might serve as a great example of such issues and could become a source of inspiration to find the definitive inflection point that a truly sustainable city requires.

WELCOME TO SANTIAGO DE CHILE

Dynamic and cosmopolitan Santiago is a vital and versatile city. Home to many events showcasing the very best of Chilean culture, it also hosts superb international festivals of sound, flavor and color. The Chilean capital breathes new life into all its visitors!

The city's diversity shines through in its many contrasting neighborhoods. Set out to explore the city streets and you'll discover beautiful and original art galleries, design shops and handicraft markets, as well as a great selection of restaurants, bars and cafes. Night owls can enjoy a taste of lively Latino nightlife in hip Bellavista!

Visit downtown Santiago to get a real feel for the city. Learn more about the country in its many fine museums, or wander around the famous Central Market – a gourmet's delight.

Fans of the great outdoors can head for the hills that surround the city and marvel at panoramic views of Santiago with the magnificent Andes as a backdrop. Take the opportunity to grab a picnic and visit one of the city´s many parks.

In Chile there are places that have not seen a drop of rain in decades, while there are others where the rain brings out the green in the millenial forests.

This diversity captivates and surprises its visitors. Because, as a consequence of its geography, Chile has all the climates of the planet and the four seasons are well differentiated. The warmest season is between October and April and the coldest, from May to September.
The temperature in Chile drops down as you travel south. In the north, the heat of the day remains during the day while the nights are quite cold. The central area has more of a Mediterranean climate and the south has lower temperatures and recurring rainfall throughout the year.

The conference will be held at the Centro de Extensión de la Pontificia Universidad Católica de Chile, located at Avenida Libertador Bernardo O'Higgins 390, Santiago, Metropolitan Region. Universidad Católica subway station, Line 1

The Center is located in the center of the city of Santiago, with excellent connectivity to the rest of the city and the most characteristic neighborhoods of the capital, either through the Metro network (Line 1) or other means of public transport such as Transantiago (Santiago's public bus network).

To make your hotel reservations, we recommend looking in the Providencia or Las Condes districts, close to Metro Line 1. We also have some suggestions for accommodation close to the conference venue.

WILL CITIES SURVIVE?: TRACKS

1. Sustainable Urban Development
– Regenerative Design for Healthy and Resilient Cities
– Sustainable Communities, Culture and Society
– Low Carbon Neutral Neighbourhoods, Districts and Cities
– Urban Climate and Outdoor Comfort
– Green Infrastructure
– Urban Design and Adaptation to Climate Change

2. Sustainable Architectural Design
– Resources and Passive Strategies
– Regenerative Design
– Energy Efficient Buildings
– Net-zero Energy and Carbon-neutrality in New and Existing Buildings
– Vernacular and Heritage Retrofit
– Building Design and Adaptation to Climate Change

3. Architecture for Health and Well-being
– Comfort, IAQ & Delight
– Thermal Comfort in Extreme Climates
– IAQ and Health in Times of Covid-19
– Comfort in Public Spaces

4. Sustainable Buildings and Technology
– Renewable Energy Technologies
– Energy Efficient Heating and Cooling Systems
– Low Embodied Carbon Materials
– Circular Economy
– Nature-based Material Solutions
– Water Resource Management and Efficiency

5. Analysis and Methods
– Simulation and Design Tools
– Building Performance Evaluation
– Surveying and Monitoring Methods
– User-building Interaction and Post-occupancy Evaluation

6. Education and Training
– Architectural Training for Sustainability & Research
– Professional Development
– Sustainable Initiatives and Environmental Activism
– Methods and Educational Practices
– Strategies and Tools

7. Challenges for Developing countries
– Energy poverty
– The Informal City
– Climate Change Adaptation
– Affordable Construction and Architecture Strategies
– Urban Planning and Urban Design Policies for Sustainable Development
– Housing and urban Vulnerability

CRISTINA DORADOR

Keynote speaker
CHILE

Between July 2022 and July 2022 she served as a member of Chile's constitutional convention. She is currently back to teaching at the Universidad de Antofagasta.

Chilean scientist, doctor and politician who conducts research in microbiology, microbial ecology, limnology and geomicrobiology. She is also an associate professor in the Department of Biotechnology of the Faculty of Marine Sciences and Natural Resources at the University of Antofagasta. From July 2021 to July 2022 she served as a member of the Constitutional Convention representing District No. 3, which represents the Antofagasta Region.

Her achievements include the coordination in Chile of the Extreme Environments Network for the study of ecosystems in the geographic extremes of Chile and having developed biotechnological tools to value the unique properties of some altiplanic

microbial communities such as resistance to ultraviolet radiation to elaborate cosmetic creams, joining the field of cosmetic Biotechnology. She has also led application projects such as the development of textile material using the photoprotective properties of altiplanic bacteria.

She was a member of the transition council of the National Commission for Scientific and Technological Research in 2019 that gave rise to the National Agency for Research and Development of Chile, and has been recognized nationally and internationally as one of the most relevant researchers in Chile.

ADRIANA ALLEN

Keynote Speaker
ARGENTINA

Professor of Urban Sustainability and Development Planning at The Bartlett Development Planning Unit (DPU), University College London and President of Habitat International Coalition (HIC).

Adriana has over 30 years of international experience in research, graduate teaching, advocacy and consulting in over 25 countries in the global South, she has specialized in the fields of development planning, socio-environmental justice and feminist political ecology.

She is currently President of Habitat International Coalition (HIC), as well as a regular advisor to UN agencies, positions from which she is actively engaged in promoting urban justice through advocacy and policy evidence, social learning and fostering international collaboration both within UCL and globally.Through the lens of risk, water and sanitation, land and housing, food and health, her work examines the interface between everyday city-making practices and planned interventions and their capacity to generate transformative social and environmental relations.

Adopting a feminist political ecology perspective, her work combines qualitative, digital/mapping, and visual research methods to decolonize urban planning practices and elucidate the "cracks" in which transformative planning can be reinvented, nurtured, and pursued. Her work focuses on three interrelated themes: urban justice, everyday city-making, and transformative planning.
Over the years, she has worked at the interface between insurgent practices and planned interventions and their capacity to generate socio-environmentally just cities.

This work stems from her engagement with the analysis of governance approaches to address structural deficits at the interface between "policy-driven" and "needs-driven" approaches and emerging improvements at scale – in water and sanitation, as well as in other areas such as food security, land, housing and health. Since 2008, she has explored the intersection of urbanization and climate change, with a particular focus on the generation and distribution of risks, vulnerabilities and capacities for action in southern cities. A third strand of her research focuses on urban planning as a field of networked governance and pedagogical strategies to decolonize planning education and shape pathways for urban equality.

ANACLAUDIA ROSSBACH

Keynote speaker
BRAZIL

Economist with a track record of more than 20 years working on the issues of slums, social housing and urban policy.

She is currently Director for Latin America and the Caribbean at the Lincoln Land Institute of Policy. She also serves as a member of the editorial board of Vivienda magazine of INFONAVIT – México. And previously she worked as a consultant on housing and urban development issues for the IDB (Inter-American Development Bank).

She worked in the Prefecture of São Paulo, supporting the Brazilian Ministry of Cities in the design and implementation of the Brazilian housing policy. She founded and served on the board of directors of the NGO INTERAÇÃO, which supported the development of high-impact projects in communities in the state of São Paulo and Recife.

As a senior consultant to the World Bank, she provided technical assistance for the development and implementation of Brazilian housing policy and slum upgrading for 10 years, including two major programs: the "PAC Favelas" slum upgrading and the "Minha Casa, Minha Vida" housing subsidy.

She acted as a senior specialist in social housing for the World Bank and other research and project organizations in Brazil and several countries around the world such as the Philippines, China, India, South Africa and Mozambique, among others.

She was Regional Manager for Latin America and the Caribbean for the Cities of Alliance Global Informality Program where the exchange of experiences and knowledge through different networks was consolidated and structured.

The main achievements in Latin America are the Urban Housing Practitioners Hub (UHPH), which brings together practitioners and networks working in the field of social housing. In the global south, multi-sectoral and disciplinary communities of practice on the theme of slum upgrading in the global south with emphasis on the countries: Mexico, Guatemala, El Salvador, Paraguay, Brazil, South Africa and India.

GIANCARLO MAZZANTI

Keynote Speaker
ARGENTINA

Born in Barranquilla, a port city in northern Colombia, Giancarlo Mazzanti is an architect graduated from Pontificia Universidad Javeriana with postgraduate studies in industrial design and architecture in Florence, Italy.

He has been a visiting professor at several Colombian universities, as well as at world-renowned academic institutions such as Harvard, Columbia and Princeton, and is the first Colombian architect to have his works in the permanent collection of the Museum of Modern Art in New York (MoMA) and the Centre Pompidou in Paris.

Giancarlo has more than 30 years of professional experience and his studio, El Equipo Mazzanti has gained notoriety due to its design philosophy based on modules and systems, which generate flexible elements capable of growing and adapting over time, seeking an architecture that is closer to the idea of strategy than to a finite and closed composition. The idea of architecture as an operation was born from exploring the different forms of material and spatial organization, considering concepts such as repetition, the indeterminate, the unfinished, instability, arrangement and patterns.

Equipo Mazzanti also stands out for its research on play and its link to the world of architecture. It is precisely this interest in the play-architecture relationship that has led it to seek new collaborations with professionals from different areas of knowledge, finding new opportunities for cooperation and developing projects and exhibitions that have been presented throughout the world under the We play You play brand.

Social values are at the core of Mazzanti's architecture, who seeks to realize projects that give value to social transformations and build communities. He has dedicated his professional life to improving the quality of life through environmental design and to the idea of social equality.

His work has become a reflection of the current social changes occurring in Latin America and Colombia, demonstrating that good architecture manages to build new identities for cities, towns and inhabitants, transcending reputations of crime and poverty.

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WILL CITIES SURVIVE?

The role of universities on forming social inclusive and sustainable environments

The importance of university social responsibility

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ABSTRACT: This paper aims to explore and emphasize the importance of universities as social and sustainable actors of urban change. In this sense and to better understand this context, the main structure conceived for this paper is composed by an introduction and a brief contextualization of the role of the universities, based on the definition and concepts of University Social Responsibility (USR), Sustainable Development and the University Social Networks. The case study of Mapping San Siro (MSS) is highlighted as an example of the role of universities and its challenges to seek for urban regeneration and more inclusive cities. This case also reinforce the role that universities can play as agents in the development of mutual learning between them and communities. As a conclusion, the reflexive thinking presented herein demonstrates how important is the role of universities in co-producing knowledge and in enriching the educational process in order to achieve changes in the society.
KEYWORDS: Universities, Social Responsibility, Sustainable Development, Communities, Urban Regeneration

1. INTRODUCTION

Currently the world is facing issues on economic, social, environmental and cultural aspects in a more revolutionary connected way than in years before. One of the main challenges is to identify which among possible actors could be the leaders of future changes facing these aspects and their role in society.

In this regard, over the years, universities are progressively building and playing an important role, through new research strategies linked towards social responsibility within communities. These new strategies are based on the concept of expanding research, teaching and learning beyond the boundaries of the university campus. Universities are being considered as "at the forefront of scientific and technological advances in undertaking global research and educating future leaders and professionals. Universities deliver impactful knowledge in every sector across all nations and act as anchors in the communities they serve nationally and internationally" [1]. The issue regarding universities and social responsibility takes on a greater relevance compared to the past. Around the world, there are many universities exchanging knowledge and experiences concerning how they are acting with their communities.

Therefore, more than training qualified personnel, universities can become responsible actors in boosting social cohesion and forming inclusive and sustainable environments.

Thus, this paper proposes a general discussion and analysis of the role of universities as agents for introduction of social responsibility in the context of community urban regeneration. To fulfil this role, universities face challenges in political, cultural, social, economic and environmental aspects. Therefore, it is important to address how this role is being built and how the impact of its actions is being perceived.

2. THE ROLE OF UNIVERSITIES

It is important to highlight that "Urban and metropolitan areas face unique challenges in serving the multifaceted needs of their communities, but also have advantages that create some of the world's greatest universities... Urban university-community engagement enriches metropolitan communities while strengthening the universities' core commitment to teaching and research" [2].

Universities are increasingly becoming organizations that seek to comprise social and civic aspects in their areas of research, in particular, in the area of for social urban regeneration.

In this sense, the universities in general are adapting their action strategies according to the local needs of their cities and communities, therefore playing a role as responsible training agents of inclusive and sustainable environments.

The role of universities is becoming more socially active through promoting co-production of knowledge and new innovative educational practices combining the engagement of students and communities to build a better society.

In what follows, the related aspects of social responsibility and sustainable urban development supporting the role of universities are addressed. Next, a case study to demonstrating how this role can be practiced is presented.

3. ON UNIVERSITY SOCIAL RESPONSIBILITY (USR)

The scenario of the higher education importance along with the approach of how academic services can take into account the needs of people and society has been growing in recent years and being addressed in the literature.

In this sense, University Social Responsibility (USR) as an approach that provide a better connection between the university and the needs of society can play an important role.

It is important to mention, that the field of university social responsibility (USR), in the past decades has gain a big repercussion, especially in relation to the application of corporate social responsibility (CSR) in the business sector. Therefore, in relation to the maximization of profits not being a common objective among universities, educational services and commercial activities, it became necessary to explore the notion of university social responsibility (USR) for research and academic practice.

Universities' attention to social responsibility began in the late 1990s. The main focus was on environmental protection in response to sustainable development and also with the approach of urban living laboratories to contribute as an experimental environment for universities.

In 1998, at the UNESCO [3] World Conference on Higher Education a call for the re-evaluation of educational policies for the new millennium was elaborated, in order to recognize the importance of the social dimension of universities by training qualified graduates and responsible citizens by creating opportunities for students to build their own sense of social responsibility. Furthermore, the 1999 World Declaration highlights the importance of social responsibility and the education matters in social-cultural and economic development.

Therefore, the awareness of social responsibility is connected with the third stream[1] or third mission, which aims at working with employers and community groups as part of teaching and research of universities.

[1] Third Stream is an international concept that "Traces an emerging role of universities in innovation processes. Such processes require a more collaborative approach with other sectors and the gradual extension of this from working with the private sector to the consideration of collective actors working on civil society issues" (Millican et al., 2014), (Laredo, 2007).

Although the concept of USR is spreading faster around the world, its design basis is still under development. Currently, USR can be considered as an engine of educational policies that relate the fundamental objectives of universities with the environment they are acting. From a practical perspective, the sense of the USR is to contribute to the quality of life, by promoting knowledge of social utility. It is worth mentioning that the USR requires "a two-way perspective between universities and society, which involves directly multiplying the critical uses of knowledge in society and the economy" [4].

Moreover, in the global northern region the USR terminology is also known as "civic engagement" or "community engagement", then used to describe the impacts of higher education institutions on public and community activities. In practice, it may be associated to "a more encompassing concept, one that includes the social impacts of the full range of university functions, and includes corporate social responsibility issues such as the energy efficiency of building design, employment policies, purchasing and financial management" [4].

Therefore, USR is not only focused on its impacts on teaching, research and service missions, but also on its practices and policies encompassing the fields of social, economic, cultural and environmental dimensions.

3.1 University Social Networks

Organizations around the world, together with universities, are developing different types of Networks to promote social responsibility.

Social responsibility is englobed in other kinds of terminology like, public or civic engagement, community engagement and universities engaged through community based learning.

Actually, universities must be one of the agents in the search for a better world. As they are considered places that hold knowledge and can promote "activities which are ethical, inclusive, and beneficial to the public; that emphasize environmental conservation, sustainability, and balanced social development that promote welfare and quality of life of people, especially the needy and vulnerable populations; and committed to build a better world" [4].

In sequence, it will be highlighted, among others as important as, four internationally recognized network organizations that promote social responsibility.

3.2 The Talloires Network

The Talloires Network is an international association of institutions with more than 400 coalition universities and spread across 78 countries and it is composed by an elected 14-member Steering Committee. Formed by heads of higher

education institutions, heads of national or regional higher education networks for university civic engagement and student representatives.

It was founded in 2005 at the Tailloires conference at Tufts European Centre in France. This was the first international reunion of heads of universities committed to engage civic and social responsibility of higher education.

The network contributes for global civic movement among universities based on three areas of analysis and action, which are: research, practice and education. These actions are addressed to publish research, to support the practice of civic engagement and educate graduate students at Tufts to the course of civic engagement.

3.3 USR University Social Responsibility Network

On October 9th, 2015, the Hong Kong Polytechnic University (PolyU) with eleven other universities across the world formed the USR Network to provide guidance and tools to make the world a better place.

The USR Network serves as a platform that connects and cultivates partnership between members and promotes activities such as global awareness of URS, global student engagement, staff training, research on global issues and publications.

The University's Social Responsibility strengthens institutional capacity to develop solutions that address the economic, social and environmental issues of society.

3.4 NCCPE National Co-ordinating Centre for Public Engagement

The National Co-ordinating Centre for Public Engagement (NCCPE) was established in 2008 as part of the Beacons for Public Engagement [5] initiative and cooperates to promote and support engagement of universities with the public.

This support is based in different types of services, such as consultancy, professional development, engage competition, engage conference, engage watermark, research for journal, manifesto for public engagement and projects.

The NCCPE is hosted by University of Bristol and the University of the West of England and is funded by UK Research and Innovation.

The term of public engagement appeared in the beginning of 2000s in the UK Higher Education Policy Lexicon as a way to understand the development of community's life.

Engaging with public is a strategy that is becoming essential for higher education in terms of strengthening responsibility, accountability, relevance and building trust.

Moreover, it is important to highlight that NCCPE support community-university partnerships as a way to create mutual benefits among them and to develop a two-way exchange of knowledge, experiences and skills between universities and communities.

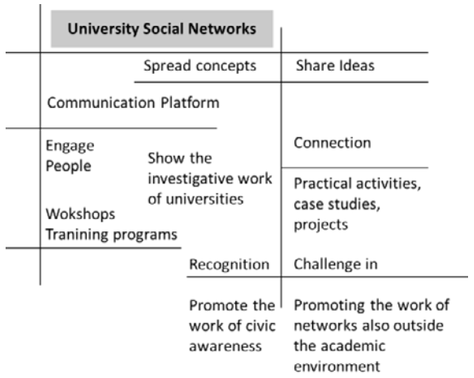
3.5 CUMU Coalition of Urban and Metropolitan Universities

The Coalition of Urban and Metropolitan Universities (CUMU) is an international organization of universities located in metropolitan areas. It was stablished in 1989 at Wright State University by a group of metropolitan institutions leaders to define and disseminate the concepts of university-community engagement by using their campuses as a place to develop education, research and to serve the local communities.

Moreover, several activities and strategies that support research are developed in order to exchange institutional engagement and public information.

Since 2018, an increasing number of CUMU member institutions have been recognized for encouraging community engagement effort located in the metropolitan areas with aim to boost partnership formation and community development.

In addition, these University Networks are important in promoting, articulating and disseminating the idea, concept and the investigative work of universities and their impact on activities carried out with the public. However, it is still a challenge to publicize the work and be



recognized not only in the academic environment. The (Fig. 1) illustrate a diagram of the general and common aspects of the networks.

Figure 1:
Note: Image developed by the author, 2021.

4. ON SUSTAINABLE DEVELOPMENT

The concept of sustainable development was launched and recognized worldwide in the second version of the United Nations Conference on Environment and Development (UNCED), held in June 1992 in the city of Rio de Janeiro (Agenda 21).

This concept embraces the relationship between environment and development, which seeks for balancing the social, economic and environmental limitations that the world faces.

Later on, in September 2015 in the city of New York the 2030 Agenda for Sustainable Development was adopted by all United Nations Member States, which "provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership"[6].

Actually, universities are considered as facilitators in adopting the SDGs (Sustainable Development Goals) at a sustainable strategic level, connecting higher education to business, industry, health, community and entrepreneurs.

Since then, universities around the world are promoting new ways of thinking about sustainable actions. In this sense, it is common to frame the role of universities as living laboratories for other universities, communities and cities as a way of implementing these actions, which seek sustainable development and social responsibility beyond the limits of university campuses.

This terminology can be defined and exemplified "As model that become a part of transformative institutional change that draws on both top-down and bottom-up strategies in pursuit of sustainable development" [1].

Moreover, living laboratories constitute "a form of experimental governance, whereby stakeholders develop and test new technologies and ways of living to address the challenges of climate change and urban sustainability" [7].

In addition, the main idea of these living labs is to create the opportunity to bring together professors, researchers, students, university staff and facilities, stakeholders and the community, in rethinking new strategies and co-producing knowledge to address sustainability and services in the settings of the real world.

Finally, it is important to emphasise that "in order for universities to realise their potential to address sustainability challenges they need new frameworks that synthesise their core business or research, teaching and social responsibility. Living labs provide new ways of working that can systematically frame co-production opportunities to achieve just that" [7].

5. MAPPING SAN SIRO (MSS) CASE STUDY

The complex of contemporary cities and their urban dynamics and challenges are demanding from Higher Education Institutions (HEIs) new approach in the process of teaching and learning in order to plan cities for social inclusion.

Urban regeneration conception[2] and the local development of marginal and peripheral areas in the last decades have become more inclusive, due to the presence of different actors, consisting of "citizens and local organizations, considered able to interpret and bring out local resources and competencies, essential to develop successful interventions, especially in an era of scarce availability of funds" [8].

Concerning the achievement of urban regeneration in fragile communities, there is an urgent call for social responsibility and civic engagement from universities, through the development of tools able to support and transform "local citizens and organizations in truly empowered actors, able to promote and control changes, but also to claim for effective institutional support" [8].

Today in Italy, the university system already encompass different concepts related to innovation, culture and social responsibility, the so-called Third Mission. To reinforce social, cultural, educational perspectives, Polytechnic of Milan, through the Polisocial Programme is involved in the repositioning and regeneration not just of its on campuses, but also of the urban areas and cities where it is present.

The Mapping San Siro (MSS) project is an example of how university and communities are working together in the development of new forms of learning, new skills, co-production of knowledge in order to find alternatives for urban regeneration and improvement of quality of life.

Beyond that, MSS is considered as an "urban living lab" experiment based on co-research, co-design and local co-production of knowledge and aims "at experimenting a pedagogical environment based on grounded, interactive, action-oriented and hybrid learning, reflecting how new approaches can enrich the experience of educational practices for the inclusive city" [9].

The neighbourhood of San Siro is located in a west area close to the central part of the city of Milan, which can be characterized as an urban marginal context. Despite its diverse living demands and urban issues, it shows up as a wealthy and active environment that "civil society takes action, promoting interventions and projects, in term of social innovation, practices and bottom up

[2] "the urban regeneration approach, widely recognised as a comprehensive and integrated vision and plan to solve the multi-faceted problems of urban areas and to improve the economic, physical, social and environmental conditions of deprived areas" [Barosio et al., 2016, 369].

responses to its needs, desires and expectations" [9].

Furthermore, the neighbourhood can be considered a fragile area, due to the issues related to social-spatial inequalities, cultural challenges and the conditions of the house's stock. It is worth mention that this area is marginal and problematic considering the "living conditions: urban decay and blight exacerbate already existing problems, such as disadvantage, social exclusion, poverty, and the coexistence of different populations and cultures" [9].

The fact of considering San Siro as a learning context in building networks and developed resources, which can be recognized by local organizations networks, composed by community groups, non-governmental organizations and local institutions. These actors work aiming the common-good for the neighbourhood by providing better conditions for living, social inclusion and cohesion. Although, this network is considered fragmented and provided by lack of resources, it plays an relevant and dual role that deals with "everyday problems, and having a proactive role in terms of the production of shared visions for the future transformation of the neighbourhood" [9]. In addition, together with the network, other resource players that can be considered are the initiatives promoted by residents and local public institutions.

Therefore, the MSS project is an action research and learning process that seeks to achieve and share mutual knowledge between university and the neighbourhood, which combines research activities and teaching practice focusing on social responsibility and civic engagement approach.

The MSS project started in 2013 under the coordination of Francesca Cognetti from the Department of Architecture and Urban Studies (DAStU) of Polytechnic of Milan and with the participation of Liliana Padovani from IUAV University of Venice and is supported by DAStU and the Polisocial Program[3].

The first activity developed was a workshop to recognize local conditions and physical analysis in order to understand, which intervention and actions could provide social and urban transformation for the local community.

The work developed by the workshop was continued in a second phase by a group of students, young researchers and teachers, in order to understand how the knowledge and expertise from academia could interact with the inhabitants and community partners. Moreover, the engagement experience offered to the students allowed them to improve their critical thinking and social competences to understand the complexity of urban and social issues.

The second phase was based on three thematic, composed by: living conditions; courtyards and public spaces; and empty residential spaces.

In 2014 another step to continue the activities of the MSS project was taken by the provision and the use of a physical space in the neighbourhood provided by the Regional Agency for Public Housing of Lombardy (ALER). The space was called Trentametriquadri and it was located in Abbiati 4.

Therefore, this location could motivate a change on the research methodology leading to the development of an innovative pedagogical environment. The Trentametriquadri became a living lab of interaction and exchange between the university and community, where "local partners and residents gave access to information, data, facts and products about the dynamics occurring in the neighbourhood" [9]. The (Fig. 2) illustrate a Diagram of the MSS themes, goals and outcomes.

Figure 2:

Themes	Goals	Outcomes	
Housing and Living Conditions	Understand complex dynamics and social practices in the neighborhood	For students develop new sensitivities and awareness	(teamwork, communication abilities, cognitive and emotional empathy, problem-solving…)
Vacant and Empty Spaces	Build up different relationships with institutions and social actors	Be able to understand urban and social dynamics in a critical way	Develop new capabilities and soft skills
Public and Common Spaces	Reshape the image of San Siro to improve public opinion		
	Provide tools for more effective initiatives and actual projects		

Note: Image developed by the author based on archival material accessed in 2021.

Later, in 2019 as an initiative of Polisocial Programme this laboratory was transferred to the space named Off Campus (The Cantiere per le periferie) in via Gigante. This physical space was the first among other two: Off Campus Nolo and Off Campus Corvetto located in other peripheral areas of the city of Milan.

The Off Campus activities are composed by research: education and culture; co-design; neighbourhood archive; coordination of Sansheros local network; and legal help desk and legality education.

The active network of Off Campus San Siro is formed among others by: Bocconi University, Region Lombardy Department Social policies, housing and disability and ALER Milano, Foundations and Companies, local network Sansheros and the Municipality of Milan.

On the other hand, the development of this experience as a living lab can be considered an innovative pedagogical environment, enriched by the possibility of having a physical space inside the neighbourhood. In this sense, this project was a way of demonstrating to the residents of the neighbourhood the possibility of an open window, in order to build connections and knowledge, share ideas and understand the daily life, their needs in fragile urban areas.

Most of the projects developed were focused on small interventions like on public and abandonment spaces, concerning its urban regeneration with the participation of local organizations and inhabitants.

As an example, one can mention the Via Gigante: street front and courtyard redesign, at Off Campus space. The idea of this project was to redesign empty spaces in the neighbourhood as a possibility to provide spaces for new uses, new activities and to recognize transformations of the public spaces.

This project was developed with an interdisciplinary approach together with The West Road Project (WRP) and it was conceived as a participatory laboratory between the university and the inhabitants, with aim to share and care for common places.

It is important to emphasize that there are still some social, environment and economic challenges to be faced. Despite of the lack of more general political and institutional support, the role of the university in these local communities can indeed provide a positive impact, in order to give them a voice and the possibility that things can change. Moreover, the creation of a common knowledge and the improvement of the academic skills by learning within a real context are important aspects to be highlighted.

6. CONCLUSION

This paper aimed to explore the important role of universities as agents for social and sustainable urban regeneration, through exploring concepts of social responsibility, sustainable development and university social network. Furthermore, by describing a case study, one aim to demonstrate and reinforce the role of universities as agents for the development of mutual learning between institutions and communities, by seeking to build more social and sustainable environments.

The Mapping San Siro (MSS) case study is a good example of how the universities are putting into practice their important role by promotion of social and civic engagement as a strategy to deal with the issues of local communities in order to achieve urban regeneration.

To conclude, the role of universities are important and necessary to guide and build better and safe environments. Although the pathway is still a challenge, the outcomes and positive impacts can be noted even with small changes, gathering efforts of all actors involved.

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