



BEY ND ALL LIMITS

INTERNATIONAL CONFERENCE ON SUSTAINABILITY IN ARCHITECTURE, PLANNING, AND DESIGN 11-12, 13 May_2022

edited by Claudio Gambardella



BEYOND ALL LIMITS

International Conference on Sustainability in Architecture, Planning, and Design

edited by Claudio Gambardella

DADI_PRESS

Università degli Studi della Campania "Luigi Vanvitelli" Department of Architecture and Industrial Design (DADI)

11-12, 13 May 2022

Monumental Complex of the Real Belvedere of San Leucio, Caserta – Italy

https://beyondalllimits22.com

RR Research activity report

BEYOND ALL LIMITS

Proceedings on International Conference on Sustainability in Architecture, Planning, and Design 11-12, 13 May_2022

edited by Claudio Gambardella

Double-blind peer review is used in the conference (Authors' identity is concealed from the reviewers and vice-versa throughout the review process).

The authors are responsible for the contents of the submitted contributions (texts, images, tables, etc.) and for compliance with the BAL 2022 format.

Dean of DADI_Ornella Zerlenga Responsible of DADI PRESS Marino Borrelli

Scientific coordination of DADI_PRESS

Marina D'Aprile (Didactics) Antonio Rosato (Research) Danila Jacazzi (Third Mission)

Graphic coordination of DADI_PRESS

Vincenzo Cirillo

Editorial Team of Beyond All Limits_2022 proceedings

Maria D'Uonno - Enrico Mirra (coordination) Domenico Crispino Rosina laderosa Michela Musto Anton Giulio Pietrosanti Adriana Trematerra

Vincenzo Cirillo (cover graphic design)

Daniela Piscitelli with Rosanna Cianniello (cover image and Beyond All Limits_2022 logo)



© copyright DADI _ PRESS 2022

Editorial line of the Department of Architecture and Industrial Design

ISBN 978-88-85556-23-2 (electronic version of the PDF format)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in some form or by some means (electronic, mechanical, photocopying, recording or otherwise) except for permission by DADI_PRESS. By regarding the extended abstract/manuscript, the publisher/DADI_PRESS will not be responsible, in any case, for handling any claims relating to authorship. The author(s) will have full responsibility for the contents and graphic editing of their extended abstract.

This volume is present in electronic version at www.architettura.unicampania.it

CONTENTS



BAL 22 INTRODUCTIONS

- 17 Foreword. Presentation of NEB BEYOND ALL LIMITS

 Massimiliano Smeriglio Member of the European Parliament
- 19 Introduction Ornella Zerlenga_Italian President of the conference
- 21 Preface Claudio Gambardella_Italian Chair of the conference
- 23 Design in/for complexity. Engendering a care-oriented society Ezio Manzini_Keynote Speaker
- 27 Perpetuum mobile. Identity and value landscapes of contemporary design Patrizia Ranzo Keynote Speaker



BAL 22 CONTRIBUTIONS

01 Survey and Representation as system of monitoring and action on the risk factors and conditions of the context

- 35 Digital images for the knowledge of bell towers and their ornamental signs Ornella Zerlenga, Rosina laderosa, Margherita Cicala
- 40 Naples, Leopardi, and the Artist/Inhabitant Project. Practices of aesthetic resistance Alessandra Cirafici, Caterina Cristina Fiorentino
- 46 Representation of territorial identities of Panagia Paraportiani in Mykonos Gennaro Pio Lento, Rosa De Caro, Fabiana Guerriero
- 51 Digital narratives for cultural heritage: new perspectives for accessibility and inclusion Alice Palmieri
- The identity drawing of places. Bell towers in sixteenth-century Naples by Antoine Lafréry Vincenzo Cirillo, Riccardo Miele
- 61 New technologies for the city and the landscape. A versatile application example Valeria Marzocchella
- 66 Knowledge and representation of the civic tower of Tora and Piccilli Rosa De Caro, Fabiana Guerriero, Gennaro Pio Lento

71 The photogrammetric survey of the Tvrdalj Fortress in Hvar Luigi Corniello, Angelo De Cicco

02 History, resilience, and green transition

- 79 The enhancement of Biocultural landscapes: history, heritage, and environment driving sustainable mobility in internal areas
 Elena Manzo, Marina D'Aprile, Antonella Violano
- 84 Conceptual framework for adaptive reuse of cisterns to cope with climate change and global warming: case of Safranbolu Irem Kahyaoğlu, Timuçin Harputlugil
- 89 Patrick Geddes in Naples. The beginning of his ecological thinking Chiara Ingrosso
- 93 Klampenborg: between local identity and territorial development. An example for Campania's spas

 Monica Esposito
- 98 Vlorë, the ancient city of Albania and its history in Giuseppe Rosaccio's travel diary Felicia Di Girolamo
- 103 New culture of mobility between flow of people and flow of ideas. Two examples of Metro's transformation: Naples and Copenhagen Federica Fiorillo

03 Restoration: a sustainable answer to uncontrolled urbanization

- 111 Restoration of the architectural heritage. The cemetery hill of Poggioreale in Naples Paolo Giordano
- 116 Restoration as a sustainable resource for urban regeneration.

 The case of the Forte di Vigliena

Corrado Castagnaro

121 Recovery of the abandoned heritage towards new fruitive horizons:

the case of S. Maria della Pace Domenico Crispino

- 126 Harbour heritage protection: sustainable practices for the enhancement of the Balkan Coast Enrico Mirra, Adriana Trematerra
- 132 Abandoned heritage between restoration and valorisation:
 Mirine Early Christian Basilica in Croatia
 Adriana Trematerra, Florian Nepravishta, Enrico Mirra

04 Urban transformations: projects, strategies, actions

141 Learning from Covid 19. Sustainable strategies for the regeneration of peripheral areas
Paolo Belardi, Valeria Menchetelli, Giovanna Ramaccini, Monica Battistoni, Camilla Sorignani

- 146 Historical city and urban voids as elements of cultural heritage: theory and projects for Aversa discontinuous city
 Francesco Costanzo, Gaspare Oliva, Michele Pellino
- 152 Architecture from rubble. To "rebuild the imaginary" Raffaele Marone
- 158 Sustainable Recovery and Urban Public Transformation of a Former Military Park Luisa Collina, Laura Galluzzo, Claudia Mastrantoni, Elisa Cinelli
- The man who designed his city. The Matteotti village in Terni by Giancarlo De Carlo as a socially sustainable method.

Barbara Bonanno

- 169 Rereading of the Process of an Idea Competition for Obtaining a Sustainable
 Urban Environment
 Rabia Çiğdem Çavdar
- 173 Urban environments regeneration. Technological issues for adaptive re-use Caterina Frettoloso, Rossella Franchino, Paola Gallo
- 178 A Scattered Courtyard: rediscovering the Historical Palimpsest of Xi'an for regenerating the urban texture along the City Wall

 Maria Giulia Atzeni
- Second-hand Architecture. For a new theory of reuse. The case of the EX IDAC FOOD Concetta Tavoletta
- 188 Resonant void. Play and interaction in architecture Marco Russo

05 Circular Technological Design for a carbon neutral approach

- 197 How to pursue the Whole Life Carbon vision: a method to assess buildings' Embodied Carbon Jacopo Andreotti, Roberto Giordano
- 203 C2C as a reference framework for circular buildings.
 Implementation on an existing settlement in Rome
 Serena Baiani, Paola Altamura
- 211 Digital-green transition of knowledge buildings Antonella Violano, Nicola Barbato, Monica Cannaviello, Souha Ferchichi, Imad Ibrik, Ines Khalifa, Jose Luis Molina, Antonella Trombadore
- 216 University communities for the green/digital renovation of buildings
 Antonella Trombadore, Gisella Calcagno, Giacomo Pierucci, Lucia Montoni, Juan Camilo Olano
- 222 Metamorphosi_{vs} Transformation: innovating the process in the regeneration technological design of heritage-built environment Antonella Violano, Antonio Maio
- 228 Slow tourism and sustainable mobility: infrastructures for a smart use Marica Merola, Chiara Tosato

06 Structural engineering

- 235 Seismic vulnerability assessment of ten bell towers in Naples
 Corrado Chisari, Mattia Zizi, Daniela Cacace, Gianfranco De Matteis
- 241 The role of the epistyle on the dynamic behavior of multi-drum columns Androniki Christodoulou, Olympia Panagouli, Athanasios Kozanitis
- 246 Seismic Retrofit of Masonry Structures: the Lancellotti Palace in Casalnuovo di Napoli Claudia Cennamo, Concetta Cusano, Luigi Guerriero
- The CLT panels: a sustainable response for existing buildings
 Giorgio Frunzio, Mariateresa Guadagnuolo, Luigi Massaro, Luciana Di Gennaro
- 255 Conservation state and structural issues of existing infrastructures: the case of statal road bridges in Campania
 Gianfranco De Matteis, Pasquale Bencivenga, Angelo Lavino, Francesco Rosselli, Mattia Zizi
- Use of structural steel in cultural heritage and for the strengthening of existing structures Euripidis Mistakidis, Olympia Panagouli

07 Occupants and their interaction with the built environment related to Multisensorial and Indoor Environmental Quality

- 267 Inclusive design and the multisensory interactions in public spaces for well-being of visually impaired people
 Samiha Boucherit, Luigi Maffei, Massimiliano Masullo
- 271 Natural Ventilation Strategies in Buildings as Part of Indoor Air Quality and Healthy Environment Merve Coşar Güzel, Gülsu Ulukavak Harputlugil
- 276 Compared spatial interpretations in the Edoardo Chiossone Museum of Oriental Art Alessandro Meloni
- 282 Head Mounted Displays for lighting in Virtual Reality: Review on Measurements, Advances, and Limitations
 Ainoor Teimoorzadeh, Michelangelo Scorpio, Giovanni Ciampi, Sergio Sibilio
- 286 The role of the subjective assessment in lighting research using virtual reality Michelangelo Scorpio, Davide Carleo, Martina Gargiulo, Pilar Chias Navarro, Yorgos Spanodimitriou, Parinaz Sabet, Giovanni Ciampi
- On the use of low-cost thermohygrometers for wearable application in the built environment Francesco Salamone, Giorgia Chinazzo, Ludovico Danza, Clayton Miller, Sergio Sibilio, Massimiliano Masullo

08 High Performance Components & Buildings

301 Prefabricated movable modular building solutions exploiting renewable sources: energy systems review Luigi Maffei, Antonio Ciervo, Dorian Diodato, Antonio Rosato

ι			
	_	,	

307	Second-skin façades and usage of textile materials in the building envelope: literature review, limitations, and future opportunities Niloufar Mokhtari, Giovanni Ciampi, Yorgos Spanodimitriou, Sergio Sibilio
314	A research on thermal defects in building envelopes for mid-rise houses to develop retrofit strategies: a case study in Sivas/Turkey Ahmet Ethem Çulcuoğlu, Timuçin Harputlugil
320	Review of 3D Printing in Architecture: applications, limitations, and future developments Giovanni Ciampi, Yorgos Spanodimitriou, Michelangelo Scorpio
329	From climate change to the development of adaptive building envelope Evelyn Grillo
335	Advanced manufacturing processes for emergent architectural systems Michela Musto
	09 Public policies for inclusive and sustainable cities
343	The environment: from limit to economic opportunity Scilla Vernile
346	The role of sustainable disclosure and reporting in the public administration: the AdSP case of the western Ligurian sea Floriana Pollio
350	The impact of COVID-19 on Piedmont Circular Economy policy roadmap Cecilia Padula, Silvia Barbero
355	Urban regeneration through an integrated urban planning approach: towards a new paradigm. The Italian experience Laura Pergolizzi
359	Brand urbanism and future scenario to promote sustainable buses public transport. A case study Benedetta Terenzi
366	Common goods: an instrument for citizen inclusion and urban regeneration Marco Francesco Errico
	10 Re-shaping planning approaches, tools and processes for a sustainable, inclusive, and resilient future
373	Museum and the Community: a case of Participatory Intervention of an Old Community in Shanghai Penghan Wu, Yedian Cheng
378	Improving learning capacity to enhance resilience: the community engagement process in the RI.P.RO.VA.RE. Project Adriana Galderisi, Giuseppe Guida, Giovanni Bello, Giada Limongi, Valentina Vittiglio
382	To a sustainable redevelopment of illegal settlements

Claudia de Biase, Salvatore Losco

387	Spatial Planning and Energy Transition: The role of public participation Elisavet Thoidou, Miltiadis Toskas-Tasios				
392	Risk-connect: a secure and ecological path in the east side of the Vesuvius National Park Claudia Sorbo				
397	Cultural Heritage in Resilience Planning: Evidence from 100 Resilient Cities Database Deniz Altay-Kaya, Damla Yeşilbağ				
401	A framework for socio-ecological urban co-design: Lessons from two urban parks in the Atacama Desert Macarena Gaete Cruz, Aksel Ersoy, Darinka Czischke, Ellen Van Bueren				
409	Spas, new possible scenarios for human and city's well-being Adriana Figurato				
	11 Beautiful, sustainable, and inclusive places: the role of appraisal and evaluation				
415	Nomad Management of Urban Development: the complex value of temporary communities Maria Cerreta, Chiara Mazzarella, Hilde Remoy				
419	The value of change: towards social impact assessment in Scampia Luciano Lauda, Fabiana Forte				
424	Pays Aimables: visual storytelling and landscape values Adriana Ghersi, Silvia Pericu, Federica Delprino, Stefano Melli				
429	Evaluation issues of cultural heritage impact-led regeneration processes. The case of Italian inner areas Federica Cadamuro Morgante, Alessandra Oppio, Chiara Sumiraschi				
433	Con(temporary) urban regeneration processes and real estate market: evidence from the case of Milan Leopoldo Sdino, Francesca Torrieri, Marta Dell'Ovo, Marco Rossitti				
438	Turkey is the Leading Housing Producer in Europe with Dominating Equity Finance in Housing Transactions Ali Turel				
442	A Decision Aid and Social Impact Co-Assessment Approach for Urban Regeneration Processes Maria Cerreta, Ludovica La Rocca, Ezio Micelli				
448	Beauty as value: evaluation issues in the NEB perspective Fabiana Forte, Alessandra Oppio				
451	Creation of a Pseudo-Vernacular Architecture and the Unintentional Attainment of Sustainability: The Case of Akyaka Town Development Zeynep Çiğdem Uysal Ürey				
457	Using evaluation tools in urban regeneration processes Fabrizio Battisti, Giovanna Acampa, Mariolina Grasso				

462 Unesco heritage and spatial analysis in a GIS environment Fabiana Guerriero, Rosa De Caro, Gennaro Pio Lento

12 Design for Sustainable & Safe Communities

- 469 Slowork, room with view. Behaviors, Heritage, Design for new lifestyles
 Francesca Castanò, Luigi Maffei, Raffaella Marzocchi, Maria Dolores Morelli
- 475 Living Hub: setting up a living lab for Simulation based Design activities
 Niccolò Casiddu, Claudia Porfirione, Annapaola Vacanti, Francesco Burlando, Isabella Nevoso
- 481 S.I.A.R.C. Sustainable Improvement for Aerial Rescue and Control Patrizia Ranzo, Nicola Corsetto, Francesco Fittipaldi
- Sustainable design in urban renewal: a case study of waterfront landscape shared infrastructure of Shanghai, China
 Xiaowen Wu, Claudio Gambardella
- 491 Beyond current limits: building occupants and climate change Timuçin Harputlugil, Pieter De Wilde
- 496 Design for sustainable behavior: strategies for understanding behavior change Wellington Minoru Kihara, Aguinaldo dos Santos, Ana Lucia Zandomeneghi, Alexandre de Oliveira
- Analyzing sustainability of green product certification systems using indicators of sustainable product
 Gülser Çelebi, Meron Belay
- Building Trust to Level 4 Autonomous Trucks for Environmental Sustainability and Road Safety

 Ayça Odabaşı Uyanık

13 For Nature / With Nature: new sustainable design scenarios

- 511 Game Experience: A Fun Form of Cultural Sustainability
 Güniz Sağocak, Gülru Mutlu Tunca
- 518 ADHEREND Research and teaching design on the integration of old and new urban spaces Feifei Song
- 524 Sustainability in the 3D printing of housing and settlements codesign processes Fabio Naselli, Anna Yunitsyna, Claudio Gambardella, Valentina Sapio
- A renewed poetic practice. Rethinking the role of packaging design to boost New Normality
 Chiara Lorenza Remondino
- Collaborative services as trigger for a sustainable culture: two case studies Claudia Morea, Sofia Collacchioni, Francesca Falli, Chiara Rutigliano
- 543 Revived Vintage objects: Designing and Recycling as a bridge connecting Period Products to contemporary functions
 Giulio Giordano

548	Nature-based design methods and practices for bathing activities sustainability Ivo Caruso, Vincenzo Cristallo				
554	Design for social innovation: a proposal for an holistic design approach Mario Bisson, Stefania Palmieri, Alessandro Ianniello, Luca Botta, Riccardo Palomba				
558	Beyond the XX century's object: 12 keywords from the international design scenery Francesca La Rocca				
564	Design for and with visual impairments through 3D printing: a case study from the covid-19 pandemic Alessia Romani, Federica Mattiuzzo, Marinella Levi				
571	Design and craftsmanship for urban regeneration Simona Ottieri				
	14 Next Consciousness. Fashion innovative scenarios, processes, and products				
579	Metamorphosis with(in) fashion: futuring through a new fashion design framework Elisabetta Cianfanelli, Margherita Tufarelli, Maria Claudia Coppola				
584	DENIM_DECONSTRUCTION. Industrial garments/random garments. Up-cycling processes Carlos Campos, Alessandra Cirafici				
590	New bio-based textiles productions increasing new circular economy models Maria Antonietta Sbordone, Carmela Ilenia Amato, Alessandra De Luca, Venere Merola				
598	Alginate Materials for Circular Fashion: from Consumptive to Regenerative Systems Sabrina Lucibello, Lorena Trebbi				
603	Smart jewels for inclusive fashion Patrizia Marti, Annamaria Recupero				
609	Platforms, algorithms, and new media in the prosumer era. The evolution of tailored production in Fashion and Cosmetic field Rosanna Veneziano, Michela Carlomagno				
614	Seven Bodies. Parametric design dialogues around the body Chiara Scarpitti, Flavio Galdi				
621	Linen Storylines in Procida. From memory to con"temporary" project, between diffusion of knowledge and sharing of practices Ornella Cirillo, Andrea Chiara Bonanno, Caterina Cristina Fiorentino, Roberto Liberti, Giulia Scalera				
626	New scenarios of conscious fashion system Valentina Alfieri				
632	Designing a Conscious Fashion Experiences: strategies for Generation Z Cristina Marino, Sara Bellini				
638	Futurable fashion state of mind. Sustainable projects and theories for new fashion system scenarios Maria D'Uonno				

- Responsible Italian Fashion. An open brand for sustainability in fashion Giulia Scalera
- 648 Collaborative sustainable innovation improving inclusiveness and value adding capabilities

 Dalia Gallico



BAL 22 ROUNDTABLE

- 659 Introduction. The Future of Sustainable Fashion Aguinaldo dos Santos
- Positive impact of fashion: value system beyond consumption and improving design processes
 Anikò Gàl
- The future of Sustainable Fashion. Interview with Anna Pellizzari, Materially Emma Gambardella
- The future of work in fashion from the perspective of technologies: a prospective study Janice Accioly Ramos Rodrigues
- 666 Fast to Slow. New visions for the future of conscious fashion system Valentina Alfieri, Silvestro Di Sarno



BAL 22 CONFERENCE

- 671 Universities
- 672 Patronages
- 673 Presidents, Conference Chairs
- 674 Sessions Chairs
- 675 Honorary Committee
- 676 Scientific Committee
- 680 DADI Organizing Committee
- 681 Venue
- 684 Services Companies
- 685 Program

To a sustainable redevelopment of illegal settlements

de BIASE Claudia 1, LOSCO Salvatore 2

¹University of Campania Luigi Vanvitelli, (Italy) - Claudia.debiase@unicampania.it ² University of Campania Luigi Vanvitelli, (Italy)

Abstract

The paper is divided into two parts, the first proposes a consideration on the planning tools provided by the Italian legislation in force to redevelop the illegal settlements characterized by illegal allotments, drawing some critical suggestions from some case law concerning specific territorial conditions. The second part recognizes in some eco-planning techniques the possibility of new planning tools suitable for solving these territorial problems. It identifies some macro-categories of intervention that these tools should use to plan and implement urban redevelopment characterized by a high degree of environmental sustainability of these parts of the territory that were created without an overall and/or systemic logic, an essential prerequisite for achieving a broader and more harmonious sustainable territorial regeneration.

Keywords

Illegal settlements, Urban Planning Tools, Environmental Sustainability, Eco-Planning, Redevelopment

1. Introduction [CdB - SL]

One of the most controversial topics of territorial policies is represented by illegal settlements and the ways in which this phenomenon has been approached in recent decades. The extension it has achieved, especially in southern Italy, calls for a cultural and technical-scientific debate to deepen this process of land transformation (Colombo, Losco, 2011) The problem of redeveloping this built city, beyond the sanctions imposed by legislation on building amnesty, is crucial because of its size and the way it affects the liveability and environmental quality of large areas of our country. The main objective of the contribution is to improve the understanding of the logic of transformation of these portions of the territory (de Biase, Losco, Macchia, 2017).

The results will contribute to the identification of tools and techniques for the re-development of these settlements through the implementation of Eco-Planning theories aimed at achieving greater resilience of these parts of the territory.

The methodology starts with an analysis of the legal and technical rules that regulate the phenomenon and define the urban planning tools for its implementation. The second step is the reading of emblematic cases and of the urban planning tools employed for their re-development, even if not foreseen by current legislation, such as the case study of Orta di Atella (Ce). Finally, to implement ecologically sustainable solutions, Eco-Panning techniques for the re-development of these settlements are proposed as guidelines for the urban planning tools provided by the national and regional laws in force.





Fig 1. Terzigno (Na) - Extract of Municipal Urban Plan, L. Colombo, S. Losco, R. Maccarone. Edges of built-up and unbuilt implementation areas, line in red.

2. Planning tools of illegal settlements [CdB]

First is essential to remark is the difference between informal (Ricci, 2020) and illegal settlements (Berdini, 2010): only the latter are the specific object of this extended abstract. The main difference that we want to underline here relates to land ownership: in the informal city (Ekandem, 2014), land ownership is indifferent, in the sense that the informal settlement is built regardless of the right of ownership of the land; in the illegal city, on the other hand, at least in the first phase of the spread of unauthorized settlement in Italy, there is a close connection between the right of ownership and the practice of abuse, in the sense that building volumes are built illegally on owned land. The phenomenon of illegal settlements, especially if extensive, can also be seen as an undesired or even wanted consequence of the separation between good politics and good town planning, which are united by the pursuit of the priority and superior public interest as an unavoidable objective to manage and plan the correct transformations of society and territory. This is true if illegal development represents the rule of the transformation and/or expansion of territory, while it loses its meaning if the phenomenon represents an exception with respect to the entire settlement of which it is a part. The term illegal development evokes the anomalous use of a resource (land), its exploitation and the practice of those who benefit themselves over an entire community (Clementi, Perego, 1985), as well as a twisted and pathological relationship with urban planning. This phenomenon, which is particularly diffuse in southern Italy, has not been stopped or given a concrete response. Urban planning instruments have played a significant role, since their absence, outdatedness, lack of clarity or total separation from the real development needs of the territory and the inhabitants have contributed to complicating the scenario. Add to this the continuous evolution (confusion) of the legislation has exploded into several plans that have not reached their objectives due to the lack of a necessary mediation between the conflicting interests of the main social and economic forces at play. How can operate in these areas? One tool that can be used is the built-up and unbuilt implementation area (Terzigno-Na) [fig. 1], which, in order to be able to give concrete answers to the current condition of our territories, must...be aimed at achieving three objectives: the construction of adequate primary and secondary urbanization; the protection of historical, artistic, archaeological, landscape, environmental and hydrogeological interests; the development of a rational

territorial and urban insertion of the settlement (Coppola, Chiodelli, 2019). Few instruments have been approved in Italy, among them, the most interesting is the case of Rome, which has provided (Zone F1-PRG 1965, Zone O-Variante delle Borgate 1983 and Toponimi-PRG 2008) a recovery model based on the detailed planning of perimeter areas through the completion of mainly residential sectors and the acquisition of public areas for the construction of equipment (ivi). Another emblematic example is the situation of Orta di Atella (Ce), which has suggested the drafting of a special Implementation Urban Plan: the posthumous IUP to be used for the new parts of the settlement already built up, with the aim of constituting the necessary legal preconditions for the partial or total removal of building and urban planning abuses resulting from the unlawful direct implementation of the provisions of the existing plan. The posthumous IUP does not exist under Law 1150/42 or LRC 16/2004 but could become part of the urban planning instruments in a surreptitious way, because of two jurisprudential sentences, one by the Cassation Court (section III. 27/09/2010 n. 34881) and another by the Administrative Court (Palermo Sicilia, section II, 15/10/2012 n. 2008). The posthumous IUP is therefore an emergency instrument, used in cases where there is not a lack of authorization (as in the case, for example, of volumes subject to amnesty), but an illegitimacy of the authorization itself, which occurs when the citizen obtains a Building Permit in a ZTO, for which there was an obligation, which was not complied with, to draw up a preliminary IUP. In view of the exceptional way in which most of the abuses have occurred, the phenomenon of illegal settlements in Orta di Atella (CE) calls for a technical and legal instrument that is also exceptional, going beyond and above the wide-ranging urban planning instruments provided by the laws in force.

3. Sustainable redevelopment of illegal settlements [SL]

Eco-Planning is about planning and implementing a habitat in which technology and nature are merged, human creativity and productivity reach the highest levels, residents' health and environmental quality are well protected, and energy, materials and information are used efficiently, with the primary objective of ensuring the correct performance of human activities. The integration of nature and man-made elements in the spatial planning (Un-HABITAT, 2009) is nothing new. Already in the last century (Howard, 1898-1902, Geddes, 1915) already the importance of the interrelationship between cities and natural ecosystems was clear, suggesting the need to limit the anthropization of the territory to properly manage urban growth. The urban planning instrument established by the legislation since the first building amnesty (Law no. 47/1985) to regularize illegal settlements was the modification (general or partial) of the Municipal Urban Plan in force aimed at the redevelopment (ivi art. 29) of these built areas, delegating to the Regions the regulation of the formation, adoption and approval by specific laws. Article 23 of Regional Law no. 16/2004 of the Campania Region only partially regulates the provisions of the national law, entrusting the MUP with the delimitation of the existing illegal settlements subject to amnesty. This perimeter, however, regulates the objectives, repeating those already set out in Law no. 47/1985, but not the delimitation criteria. The MUP defines the modalities for the urban/building redevelopment of the illegal settlements, the compulsory interventions and the procedures, including mandatory ones, for the execution of the same, also through the formation of building implementation zones. The MUP can subordinate the implementation of urban and building redevelopment interventions on illegal settlements to the drafting of special IUP, called Illegal Settlements Redevelopment Plan for, whose formation procedure follows the rules of the implementation regulation provided for by art. 43bis. In the regional legislation of Campania, there are therefore three tools to be applied to solve the problem of illegal urban development: the modification of MUP at general municipal planning level, the ISRP and/or the building implementation area at executive planning level. Where illegal urban development represents and embodies the rule of expansion and/or dominant transformation of the territory, a technically relevant solution can be pursued at the general urban planning and/or implementation scale. There is no doubt that this illegal heritage is a condition for drafting new MUPs, so that it can be redeveloped and become a fully-fledged part of the city to which it belongs; to this end, it is useful to identify environmentally sustainable guidelines for drafting these instruments. Eco-Planning applies state-of-the-art techniques to plan and implement transformation interventions that have a sustainable impact on the environment by intervening on water, urban density and form, mobility, biodiversity, waste, soil, energy, and the reduction of greenhouse gas emissions, which can guide the drafting of both MUPs (like zone Br of Terzigno) [fig. 2], building implementation zone and ISRP for the sustainable redevelopment of illegal settlements.





Fig 2. Terzigno (Na) - Extract of Municipal Urban Plan, L. Colombo, S. Losco, R. Maccarone. Zone Br - illegal built-up settlements, shaded in light blue.

Sustainable redevelopment guidelines must provide for the implementation, integration, improvement and redesign of:

- primary urbanization works pursuing the maximum environmental sustainability through the application of water sensitive urban design techniques, the extensive use of slow and/or collective mobility, the integration of energy plants to the local network and to the supra-municipal sector networks, the provision of data networks in coherence with the urban and social morphology;
- secondary urbanization works providing urban arrangements capable of improving the local microclimate by reducing the urban heat island effect;
- settlement fabrics with high residential and/or productive and/or mixed density to limit soil consumption in areas not yet urbanized, to reduce land take, to limit soil sealing, to connect and integrate these settlements with existing consolidated ones:
- configuration of settlement fabrics and performance of the building stock to reduce vulnerability to territorial risks (seismic, hydrogeological, volcanic, technological), energy consumption (construction of nZEB constructions) and and waste production;
- morphological quality of the urban and natural landscape also from the point of view of environmental qualities.

These guidelines can be framed within the wider background both of disciplinary tradition of *Progetto di suolo* (Secchi, 1986) and in the new Eco-Planning theory and techniques (Yeang, 2009. Yang, 2013. Forman, 2014).

4. Conclusions [CdB - SL]

The relevance and interest of the proposed topic is related to the extent and diffusion of the phenomenon of illegal settlements, and to the employment and development prospects that a planned redevelopment would be able to offer. Some reflections may be useful for the development of new technical and legal tools for urban regeneration based on Eco-Planning and public-private partnerships. Several issues remain to be explored, such as: the assessment of environmental damage and compensation, the reduction of land consumption and the mitigation of territorial risks, the overcoming of the separation between sectoral regulations (construction, urban planning, landscape, taxation, and private law), all of which have a heavy impact on the coordination between construction, urban planning, land protection, and territorial and environmental taxation, to name but a few.

References

Berdini, P. (2010). Breve storia dell'abuso edilizio in Italia. Dal ventennio fascista al prossimo futuro. Donzelli Editore.

Clementi. A., Perego, F. (1999). La metropoli spontanea. Il caso di Roma. Dedalo Editore.

Colombo, L., Losco, S. (2011). *Ambiente e habitat vesuviano tra norme, vincoli e spontaneismo.* XIV Conferenza SIU - Abitare l'Italia. Territori, economie, disuguaglianze, www.planum.net

Coppola, A., Chiodelli, F. (2019). INU Rapporto dal Territorio 2019 (p. 327-335). INU Edizioni.

de Biase, C., Losco, S., Macchia, L. (2017). *Abusivismo urbanistico e sostenibilità ambientale*. Edizioni Le Penseur.

Ekandem, E. S. et al. (2014). Spontaneous Settlements: Roles and Challenges to Urban Planning. Journal of Sustainable Development Studies, 6 (2), 361-390.

Forman, R.T.T. (2014). Urban Ecology. Sciences of Cities. Cambridge University Press.

Geddes, P. (1915). Cities in Evolution: An Introduction to the Town Planning Movement and the Study of Civics. William & Norgate.

Howard, E. (1898). Tomorrow, a peaceful path to real reform. Swan Sonnenschein & Co. Ltd.

Howard, E. (1902). Garden cities of tomorrow. Swan Sonnenschein & Co. Ltd.

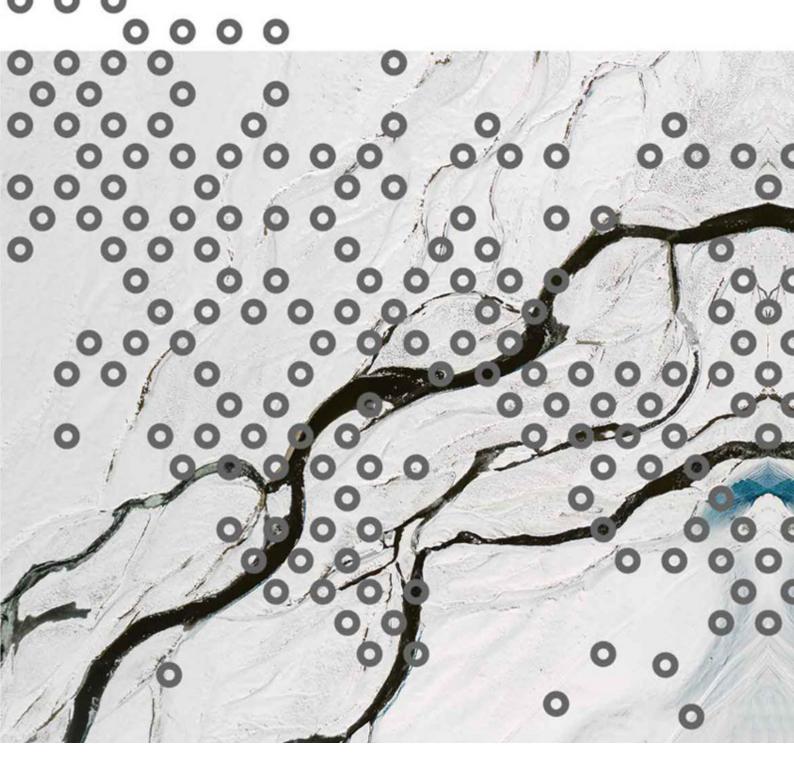
Ricci, L. (2020). Europa Y/E America Latina. Insediamenti informali e abusivismo: gli strumenti per il recupero. FrancoAngeli.

Secchi, B. (1986). Progetto di suolo. In: Casabella, n. 520-521. Electa.

Un-HABITAT (2009). Planning Sustainable Cities, Global Report on Human Settlements. Earthscan.

Yang, Z. (edited by) (2013). Eco-Cities. A Planning Guide. Routledge.

Yeang, K. (2009). Ecomasterplanning. John Willey & Sons Ltd.



ISBN 978-88-85556-23-2