

INFOLIO 42

RIVISTA DEL DOTTORATO DI RICERCA IN ARCHITETTURA, ARTE E PIANIFICAZIONE DELL'UNIVERSITÀ
DEGLI STUDI DI PALERMO - DIPARTIMENTO DI ARCHITETTURA



AGENDA 2030 Contraddizioni & Goals

INFOLIO

RIVISTA DEL DOTTORATO DI RICERCA IN ARCHITETTURA, ARTI E PIANIFICAZIONE

Direttore

Filippo Schilleci

Comitato scientifico internazionale

Marcella Aprile

Michela Barosio

Susanna Caccia

José Calvo Lopez

Xavier Casanovas

Adele Picone

Manuel Alejandro Ródenas López

Enrico Sicignano

Ola Söderström

Angioletta Voghera

Comitato editoriale

Laura Barrale

Simona Colajanni

Giuseppe Marsala

Renata Prescia

Salvatore Siringo

Ignazio M. Vinci

Comitato di redazione:

Revisori

Simona Colajanni, Maria Sofia Di Fede,

Marco Picone

Redattori (2023-2024)

Dottorandi dei cicli XXXVI, XXXVII, XXXVIII

Progetto grafico

Marco Emanuel Francucci, Francesco Renda

Per questo numero:

Curatori

Salvatore Di Maggio

Samuele Morvillo

Rita Tolomeo

Carmen Trischitta

Impaginazione

Salvatore Di Maggio

Samuele Morvillo

Rita Tolomeo

Carmen Trischitta

Contatti

infolio@riviste.unipa.it

Sede

Dipartimento di Architettura (D'ARCH)

Viale delle Scienze, Edificio 14, Edificio 8

90128 Palermo

tel. +39 091 23864211

dipartimento.architettura@unipa.it

dipartimento.architettura@cert.unipa.it (pec)

In copertina

Agenda 2030

Chiara Palillo

La Rivista

In folio è la rivista scientifica di Architettura, Design, Urbanistica, Storia e Tecnologia che dal 1994 viene pubblicata grazie all'impegno dei dottori e dei dottorandi di ricerca del Dipartimento di Architettura (D'ARCH) dell'Università di Palermo (UNIPA).

La rivista, che si propone come spazio di dialogo e di incontro rivolto soprattutto ai giovani ricercatori, è stata inserita dall'ANVUR all'interno dell'elenco delle riviste scientifiche dell'Area 08 con il codice ISSN 1828-2482. Ogni numero della rivista è organizzato in cinque sezioni di cui la prima è dedicata al tema selezionato dalla redazione della rivista, mentre le altre sezioni sono dedicate all'attività di ricerca in senso più ampio.

Tutti i contributi della sezione tematica sono sottoposti a un processo di *double-blind peer review*.

Per questo numero il tema selezionato è:

"Agenda 2030: Contraddizioni e goals"

L'Agenda 2030 è un piano d'azione adottato dalle Nazioni Unite nel 2015 e rappresenta una sfida a livello globale per porre fine alla povertà, proteggere il pianeta e garantire uno sviluppo sostenibile per tutti entro il 2030. L'Agenda ha stabilito 17 Obiettivi di Sviluppo Sostenibile (SDG) per affrontare sfide globali come la povertà, la fame, la disuguaglianza, il cambiamento climatico e la perdita di biodiversità.

Attraverso i 17 Goals, si punta ad un'evoluzione in modo equilibrato delle tre dimensioni dello sviluppo sostenibile - economica, sociale ed ecologica - nonché a porre fine alla povertà, a combattere l'ineguaglianza, ad affrontare i cambiamenti climatici e a costruire società consapevoli che rispettino i diritti umani. Tale impegno richiede la partecipazione di tutti i soggetti coinvolti, dal settore privato a quello pubblico, dalla popolazione civile agli operatori dell'informazione e della cultura.

L'Agenda 2030 è un esempio di problema complesso che richiede un approccio interdisciplinare. Per raggiungere questi obiettivi, infatti, è necessario che i governi, le organizzazioni, la società civile, le aziende, le comunità scientifiche e tutti gli altri attori coinvolti collaborino per sviluppare soluzioni integrate e sostenibili, anche per superare ostacoli o possibili contraddizioni riscontrate nel tempo. L'Agenda può, infatti, presentare dei limiti a causa della sua attuale visione prettamente antropocentrica, contraddicendosi sugli studi che richiedono invece una visione integrata dell'intero ecosistema. In questo contesto, l'architettura svolge un ruolo cruciale nel raggiungimento di questi obiettivi, in quanto può aiutare a creare città sostenibili e vivibili, promuovere l'uso di energie rinnovabili e contribuire alla conservazione delle risorse naturali.

I paper contenuti in questo numero condividono riflessioni e avviano un dibattito su una nuova visione dei goals presenti in agenda, sui possibili limiti riscontrati, sulle possibili sfide e contraddizioni, partendo da esperienze in contesti locali, azioni progettuali e ruolo della tecnologia e dell'innovazione tecnologica, processi di partecipazione attiva nel raggiungimento degli Obiettivi di Sviluppo Sostenibile.



Università
degli Studi
di Palermo



DIPARTIMENTO
DI ARCHITETTURA
UNIPA



DOTTORATO DI RICERCA
IN ARCHITETTURA,
ARTI E PIANIFICAZIONE
DIPARTIMENTO
DI ARCHITETTURA DI PALERMO

Indice

DOTTORATO IN ARCHITETTURA, ARTI E PIANIFICAZIONE (XXIX-XXXVIII CICLO)

Coordinatore del Dottorato: Marco Rosario Nobile

Collegio dei docenti (XXXV CICLO-XXXVII CICLO)

Indirizzo in Progettazione Architettonica

Antonio Biancucci, Giuseppe Di Benedetto, Santo Giunta, Manfredi Leone, Luciana Macaluso, Antonino Margagliotta, Giuseppe Marsala, Emanuele Palazzotto, Michele Sbacchi, Andrea Sciascia, Francesco Sottile, Gianfranco Tuzzolino.

Indirizzo in Rappresentazione, Restauro e Storia: studi sul patrimonio architettonico

Fabrizio Avella, Paola Barbera, Zaira Barone, Maria Sofia Di Fede, Francesco Di Paola, Emanuela Garofalo, Vincenza Garofalo, Francesco Maggio, Marco Rosario Nobile, Stefano Piazza, Renata Prescia, Fulvia Scaduto, Rosario Scaduto, Ettore Sessa, Domenica Sutura, Gaspare Massimo Ventimiglia.

Indirizzo in Studi Urbani e Pianificazione

Giuseppe Abbate, Angela Alessandra Badami, Maurizio Carta, Teresa Cilona, Chiara Giubilaro, Barbara Lino, Francesco Lo Piccolo, Grazia Napoli, Marco Picone, Daniele Ronsivalle, Valeria Scavone, Flavia Schiavo, Filippo Schilleci, Vincenzo Todaro, Ferdinando Trapani, Ignazio Vinci.

Indirizzo in Progettazione sostenibile dell'architettura e Design: Human centered

Emanuele Angelico, Tiziana Campisi, Anna Catania, Simona Colajanni, Rossella Corrao, Giuseppe De Giovanni, Cinzia Ferrara, Tiziana Firrone, Maria Luisa Germanà, Antonella Mami, Dario Russo, Cesare Sposito, Vita Maria Trapani, Calogero Vinci, Serena Viola, Rosa Maria Vitrano.

Docenti stranieri

Beatriz Blasco Esquivias, José Calvo Lopez, Javier Ybanes Fernandez , Vincenzina La Spina, Jorg Schroder, Jordi Bellmunt, Yolanda Gil Saura, Pablo Martí, Andrés Martínez Medina, Enrique Nieto, Manuel Alejandro Rodenas Lopez, Adrian Iancu, Ionut Julean, Virgil Pop, Cristina Purcar, Vlad Rusu, Dana Vais, Alex Deffner, Konstantinos Lalenis, Pantelis Skayannis, Alfonso Senatore.

Collegio dei docenti (XXXVIII CICLO)

Indirizzo in Rappresentazione, Restauro, Storia: studi sul Patrimonio Architettonico

Fabrizio Agnello, Fabrizio Avella, Paola Barbera, Zaira Barone, Maria Sofia Di Fede, Francesco Di Paola, Edoardo Dotto, Emanuela Garofalo, Vincenza Garofalo, Francesco Maggio, Marco Rosario Nobile, Stefano Piazza, Renata Prescia, Fulvia Scaduto, Rosario Scaduto, Federica Scibilia, Ettore Sessa, Domenica Sutura, Gaspare Massimo Ventimiglia.

Indirizzo in Progettazione Sostenibile dell'Architettura e Design: approccio human-centered

Emanuele Walter Angelico, Antonio Biancucci, Tiziana Campisi, Carmelina Anna Catania, Simona Colajanni, Rossella Corrao, Giuseppe De Giovanni, Salvatore Di Dio, Cinzia Ferrara, Tiziana Rosa Maria Luciana Firrone, Maria Luisa Germanà, Santo Giunta, Benedetto Inzerillo, Antonella Mami, Antonello Russo, Dario Russo, Cesare Sposito, Vita Maria Trapani, Calogero Vinci, Rosa Maria Vitrano.

Indirizzo in Studi Urbani e Pianificazione

Giuseppe Abbate, Angela Alessandra Badami, Maurizio Carta, Teresa Cilona, Annalisa Giampino, Manfredi Leone, Barbara Lino, Francesco Lo Piccolo, Grazia Napoli, Fausto Carmelo Nigrelli, Marco Picone, Daniele Ronsivalle, Valeria Scavone, Flavia Schiavo, Filippo Schilleci, Vincenzo Todaro, Ignazio Marcello Vinci.

Docenti stranieri

Josè Calvo Lopez, Javier Ibanez Fernandez, Vincenzina La Spina, Pablo Martí Ciriquiàn, Andrés Martínez Medina, Francesca Olivieri, Manuel Alejandro Rodenas Lopez, Jörg Schröder

06 | L'Agenda 2030 tra contraddizioni e contronarrazioni
Stefania Crobe

SEZIONE TEMATICA

09 | Digital limits and human possibilities
An introduction to urban filmmaking towards SDGs local achievement
Jessica Comino

21 | Developing a Grounded-base Model about Official Public Participation in the Administration of Community Affairs. Case of study: Sarshur Neighborhood in Mashhad, Iran
Esmaeil Kalate Rahmani, Mina Ramezani, Elnaz Khalili

33 | Transizione ecologica e Agenda 2030
La riduzione dell'impronta ecologica dell'ambiente costruito nel quadro degli obiettivi climatici delle politiche pubbliche
Alba Fagnani

43 | Approcci culturali e partecipativi per la gestione della risorsa idrica urbana. L'Agenda 2030 come programma di transizione.
Anna Gallo

55 | CITIES AT NIGHT.
Tensions created between climate change and spectacle and three proposals for its release.
Maria Redondo Pérez

67 | Politica di coesione, cambiamenti climatici e Agenda 2030. Stima delle emissioni GHG della programmazione FESR 14–20 in Sardegna con il modello CO_MPARE
Sandro Sanna Cecilia Camporeale Elèna Girola Pasquale Regina

81 | Costruire un futuro sostenibile: il ruolo chiave del settore delle costruzioni nell'Agenda 2030
Adriana Calà

91 | Assessing the Quality of Life and Livability in the Gheorgheni Public Housing Project in Cluj Napoca, Romania
Natsheh Bahijah

99 | Investigating residents' environmental preferences in the field of social housing. Case study: Mashhad, Iran
Ali beygi, Mina Ramezani, Elnaz Khalili, Esmaeil Kalate Rahmani

109 | Breaking the Chains of Car Precedence: Street for people by transforming urban mobility, Case Study of Amsterdam Weesperstraat
Elif Sezer

119 | Madonie in Motion. Guide to innovative technological solutions for Sustainable Development Goals
Luisa Lombardo

127 | De Rebus Naturae. Design strategico per la valorizzazione del capitale naturale e lo sviluppo locale
Mattia Baffari

135 | Changing Cluj from bottom-up. The story of East Park regeneration project
Sisak Camelia

149 | A Novel Approach to Composing the Research Bibliography Chapter in a PhD Thesis, Using "Brownfield" Keyword as an Example
Mina Ramezani

LETTURE

159 | Adriaenssens, S., Block, P., Veenendaal, D., & Williams, C. (a cura di, 2014). Shell structures for architecture: form finding and optimization. Routledge. Londra.
Salvatore Di Maggio

160 | Il Clima come Materiale da Costruzione, Carlo Pozzi, Libria, 2015
Marco Bellomo

161 | Paoletti, I. (2021). Siate materialisti!, Einaudi, Torino
Francesca Anania

162 | Steel, C. (2020). Sitopia: how food can save the world. Carmen Trischitta

163 | Pileri P., Renzoni C., Savoldi P. (2022). Piazze scolastiche. Reiventare il dialogo tra scuola e città, Corraini, Mantova.
Gloria Lisi

164 | Menconero S. (2022). Carceri piranesiane. Analisi e interpretazione di uno spazio immaginario. Sapienza Università Editrice, Roma.
Antonio La Colla

STATO DELLE RICERCHE

167 | Brownfield Research : A Comprehensive Review of Library-Based Data Collection and Descriptive Analysis
Mina Ramezani

175 | Approcci place-based alla co-pianificazione del patrimonio territoriale
L'Agenda 2030 e l'integrazione mancata delle prospettive dal basso
Giovanni Ottaviano, Luciano De Bonis



Accross the Madonie District (Image by the author, Luisa Lombardo)

Madonie in Motion. Guide to innovative technological solutions for Sustainable Development Goals

Sezione I - Il tema

Luisa Lombardo

The Madonie, a mountainous region in the heart of Sicily with its 21 villages, is a territorial area that has been facing significant challenges for years, such as depopulation and lack of employment. However, the economic opportunities provided by Europe can be a driving force to pursue the United Nations Sustainable Development Goals (SDGs). The contribution explores the possibility of designing an atlas of sustainable and built-compatible technological solutions applicable locally to achieve the SDGs.

Keywords: Madonie Smart Villages, Atlas, Development Goals, Sustainable Technology, Sicilian Inner Rural Areas

The Enchanting Madonie Region: A Microcosm of Challenges and Sustainable Opportunities

The Enchanting Madonie Region: A Microcosm of Challenges and Sustainable Opportunities

The Madonie Park, an extensive natural area situated in the heart of Sicily, encompasses around twenty-one municipalities within the Province of Palermo. It extends from the town of Caccamo in the west to San Mauro Castelverde in the east. Renowned for its profound historical, artistic, architectural, and, above all, natural significance, the park ranks as the second-largest green expanse on the island. In 2015, it received the prestigious UNESCO Geopark designation. The geological features of the region, admired by scholars and captivating to those less experienced in the field, include diverse landscapes transitioning from slopes to mountain peaks, curious formations of fossils embedded in rock formations, refreshing emanations from numerous springs, and the enigma of countless caves serving as gateways to subterranean and unexplored realms. In addition to its intrinsic naturalistic values, the Madonie Park is a hub for the production of high-quality local products, representing the entire island, particularly Slow Food products. These ensure remarkable territorial excellence, with approximately 60-70% of Si-

cilian local products originating from this area, gaining recognition nationally and internationally. Within this expansive green sanctuary, twenty-one villages thrive as bastions of the landscape, contributing significantly to the millennia-old history of the region. The fusion of nature and human ingenuity makes these places globally unique. Divided between Upper and Lower Madonie, and Madonie Imeresi, each area possesses distinct characteristics and unique traits. The municipalities of the Madonie region, as illustrated in Figure 1, play a central role in the narrative of Madonie Park, and their future is inexorably linked to their management [Aiello et al., 2023].

These villages function as tightly-knit communities deeply ingrained in the land, where time-honoured traditions, customs, religious observances, and popular celebrations endure. Furthermore, they embody a profound sense of active citizenship, community, and collaborative spirit, bearing witness to their enduring strength. Undoubtedly, the Madonie region represents a valuable reservoir of potential. Unfortunately, contemporary circumstances compel us to acknowledge that this region currently faces a series of formidable challenges. The pervasive issue of depopulation has initiated a gradual weakening of the local communi-



Fig. 1. Isnello, a municipality in the Madonie District; ©Luisa Lombardo, 2021

ty, leaving behind municipalities and hamlets that are experiencing a progressive decline in their vitality. Foremost among these challenges is the exodus of the younger population to urban centres, driven by the search for employment opportunities, services, and a more dynamic environment. Despite its exceptional aesthetics and unparalleled historical and architectural heritage, the Madonie region faces the daunting task of attracting new generations and innovative enterprises capable of infusing vitality into its economic fabric. The lack of profitable job opportunities and innovative entrepreneurial initiatives poses a formidable impediment to sustainable progress [Calderone et al, 2023]. The Madonie region, with its historic towns, lush landscapes, and traditional agriculture, has struggled to retain its population and offer opportunities to its residents. Young people often seek better prospects in urban areas, leaving the region with a declining workforce and an ageing population. The lack of economic diversity and limited access to quality education and healthcare services further exacerbate these challenges. It's a story all too familiar in rural areas worldwide. Nevertheless, hope prevails, as research, innovation, and architecture actively strive to address these needs. Sustainable and technological solutions and strategies are emerging to meet the unique requirements of the region but also to contribute to Sustainable Development Goals [Basile et al, 2023].

Navigating Sustainability: SWOT Analysis and an Atlas of Technological Solutions for the Rehabilitation and Enhancement of the Inner Areas of the Madonie Region

Italy is renowned for its abundant cultural heritage, artistic treasures, and awe-inspiring landscapes. However, over the past few decades, numerous small

villages, including those in the Madonie region, have encountered significant challenges. These challenges encompass the absence of public services, limited economic opportunities, insufficient investment in infrastructure, an ageing population, depletion of natural resources, geographical isolation, absence of regional development strategies, and the erosion of cultural traditions. This decline has resulted in various issues, including the closure of schools, shops, and public services, placing the very existence of these communities in jeopardy. The concept of sustainable development is a pivotal perspective for rural areas in Italy, especially those in the Madonie region. Achieving this requires the pursuit of goals outlined in the 2030 Atlas agenda [Mancini, 2023]. Specifically, it is essential to examine some of these goals and their implications for rural areas and the 21 villages within the Madonie Park:

- Goal 7: Clean and Affordable Energy - The adoption of renewable energy sources and sustainable energy practices could reduce energy costs in small communities, promoting local economic development.
- Goal 8: Decent Work and Economic Growth - Creating sustainable jobs in tourism, organic agriculture, and craftsmanship can contribute to increased employment in rural areas.
- Goal 9: Industry, Innovation, and Infrastructure - Investments in digital and physical infrastructure in the Madonie could foster innovation, business competitiveness, and connectivity with external markets.
- Goal 10: Reduced Inequalities - Sustainable development could help reduce socio-economic inequalities between rural and urban areas, ensuring equitable access to resources and opportunities.
- Goal 11: Sustainable Cities and Communities - Urban redevelopment and the preservation of the cultural heritage of the Madonie could lead to the creation of



Fig. 2. SWOT Analysis for Madonie inner mountain area; ©Luisa Lombardo, 2023.

sustainable communities that are attractive for tourism and suitable for habitation.

- Goal 13: Climate Action - Mitigating hydrogeological risks and promoting sustainable agricultural practices could help protect the Madonie from climate change and natural disasters.
- Goal 15: Life on Land - Environmental preservation and the promotion of eco-friendly agricultural practices could contribute to the conservation of biodiversity and ecosystems in the Madonie.

To achieve a comprehensive improvement of the Madonie region and foster new models of living, it is crucial to initiate a virtuous process of sustainable development. This involves taking measures to revitalize abandoned buildings and neglected surrounding areas, transforming isolated assets into hubs to promote commerce and sports activities. Above all, it requires bringing the built heritage into a contemporary state, as well as promoting the region's resources within a perspective of potential for a more flourishing, sustainable, and attractive future. Additionally, it is essential to develop tourist-cultural and gastronomic circuits, preserve and recover the cultural, historical, and artistic heritage, and promote the consumption and sale of Slow Food products.

In summary, achieving the Sustainable Development Goals provides a pathway to preserve the culture of

these villages, improve their quality of life, create economic opportunities, and ensure a sustainable future for future generations. Investing in rural communities not only benefits these areas but enriches the entire country by preserving its unique heritage and promoting more equitable and balanced development. As we navigate the path toward sustainability in the Madonie region, this study serves as a guiding compass, offering valuable insights, data-driven strategies, and a renewed sense of purpose. It embarks on a scholarly journey through the multifaceted landscape of this Sicilian gem, providing a comprehensive examination of its prospects and challenges. This insightful study is rooted in a robust SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis [Fig.2][Lo Presti, 2023], delivering a meticulous assessment of the region's intrinsic attributes and vulnerabilities. It acknowledges the strengths that serve as the foundation for revitalization efforts, recognizing the cultural heritage, natural beauty, and historical significance that stand as pillars of promise. Simultaneously, it delves into the weaknesses that have contributed to the region's demographic decline and economic stagnation, addressing issues such as depopulation, lack of youth engagement, and scarcity of employment opportunities. However, it is in the exploration of opportunities and threats that the narrative gains depth and dimension. The study unveils a tapestry of possibilities, spotlighting technolo-



Fig. 3. Madonie's Smart Village Map, reproducing a tube map; ©Luisa Lombardo, 2022.

gical innovations, sustainable initiatives, and cultural preservation as avenues toward resurgence. Simultaneously, it confronts the perils that loom on the horizon, from environmental challenges to socio-economic disparities.

Integral to this scholarly journey, enriched by a level of protection dictated by the landscape constraints present in the area and endorsed by the Superintendent of Cultural and Environmental Heritage of the province of Palermo, is the Atlas component. This component serves as a visual and spatial representation of the assets and challenges within the Madonie region. Cartographic data and geographic analyses converge to provide a compelling visualization of the region's topography, resources, and socio-cultural dynamics. Following an initial analysis of the territory, the Atlas functions as a practical tool for policymakers, researchers, technicians, businesses, and stakeholders, delivering a comprehensive understanding of the region's landscape. This study acts as a guiding compass, furnishing valuable insights, data-driven strategies, and a renewed sense of purpose. It encourages all relevant parties to participate in a collective effort to safeguard and rejuvenate this Sicilian and Italian treasure, ensuring a vibrant and prosperous future for generations to come. The Atlas of Technological Solutions for the Rehabilitation and Enhancement of the Inner Areas of the Madonie

Park, an outcome of this research, is taking form as a practical tool for all professionals involved in this context, including municipal administrations. Its primary objectives are threefold: promoting and disseminating best practices for the rehabilitation of existing building heritage, presenting technological solutions compatible with the built heritage, and simplifying bureaucratic processes for application submissions, both public and private.

This Atlas is currently under development and continuously enriched with additional technological and innovative solutions. It is categorised into various sections, including, but not limited to: energy efficiency, seismic vulnerability, water recovery, expanded accessibility, energy communities, urban decor, digitisation, community cooperatives, financing, governance, business plans, and acoustic adaptation. Each category outlines specifications for proposed solutions, accompanied by practical examples and reference case studies. Virtuous interventions that have already proven successful in the Madonie region or in other countries are included. The Atlas also takes into account the municipalities within the Madonie Park area, ensuring that the proposed solutions are relevant and tailored to each local context. Furthermore, the Atlas of Technological Solutions for the Rehabilitation and Enhancement of the Inner Areas

of the Madonie Park aligns with the objectives of the United Nations' Agenda 2030. This makes it a significant tool for guiding the sustainable development of the Madonie region, contributing to the global goals established by the United Nations' Agenda 2030 by blending tradition and innovation.

Paving the Path to Sustainable Success: Adoption and Outcomes of the Madonie Atlas

The implementation of this work on the Atlas of Technological Solutions for the Rehabilitation and Enhancement of the Inner Areas of the Madonie Park promises a range of significant outputs and outcomes for the region. Here are some key outputs:

- **Policy Guidance:** The Atlas provides valuable guidance for local and regional policymakers. It offers data and evidence-based solutions to address socio-economic and environmental challenges in the Madonie region, contributing to targeted policy formulation and effective resource allocation (digitalization and solution for smart governance and smart municipalities).
- **Promotion of Building Rehabilitation:** The Atlas highlights solutions for the restoration of existing building heritage, helping to reduce the degradation of historical structures and increase the cultural heritage value of the region (innovative materials and .
- **Local Economic Development:** The technological solutions and best practices collected in the Atlas can promote the development of local businesses and innovation, creating new job opportunities and stimulating economic activity.
- **Environmental Sustainability:** Energy efficiency, water recovery, and additional solutions outlined in the Atlas contribute to environmental sustainability. They work towards diminishing the environmental impact of human activities, promoting responsible resource usage, and endorsing technological solutions that have no adverse effects (water mills for electricity generation).
- **Community Empowerment:** The Atlas encompasses categories like "community cooperatives," fostering the active involvement of local communities in resource management and development with the help of a community catalyst.
- **Reduced Seismic Vulnerability:** Solutions addressing seismic vulnerability improve the resilience of infrastructure, buildings, and communities to seismic events, thereby enhancing the safety and stability of the region. This includes the proper use of metal chains in buildings, blending technology and innovation.

- **Facilitation of Access to Funding:** The Atlas provides information on possible sources of funding, simplifying the process of researching and accessing funding for local development projects (crafting a business plan before pursuing a European grant).

- **Boosting Sustainable Tourism:** Solutions for urban aesthetics and accessibility can improve the region's tourism appeal, promoting sustainable tourism and the valorization of cultural heritage (tactile maps and handrails, and totems for enhanced accessibility in public spaces).

- **Streamlining Bureaucratic Processes:** The Atlas aims to simplify bureaucratic processes related to project approval, enabling greater efficiency in the implementation of public and private initiatives.

- **Alignment with Agenda 2030 Goals:** The outputs of this work contribute to the implementation of the United Nations' Agenda 2030 goals, promoting sustainable development, reduced inequalities, and environmental protection.

In conclusion, the Atlas of Technological Solutions serves as a valuable instrument for promoting sustainable development and well-being in the Madonie region. It offers practical solutions to address regional challenges and create opportunities for local communities. Its positive impact spans from the preservation of cultural heritage to economic growth, and from environmental sustainability to community participation, all aimed at shaping a prosperous future for this distinctive region. Taking a smart and innovative perspective, the Atlas aims not only to advocate specific solutions but also collective approaches that can be adopted by all 21 municipalities in the region, as well as in other areas with similar characteristics and challenges. To optimally integrate and adapt the identified success stories, a specific graphic representation [D'Amico, 2023], inspired by the approach used in many European smart villages, has been developed for the Madonie area using the "London Underground" technique (Fig.3). Drawing on the analyzed case studies, this representation offers a clear overview of the smart villages and refines the research objectives. It seeks to link the Madonie region to technological and innovative strategies across different lines of action (each related to one or more municipalities in the Madonie), all converging towards the primary goal, highlighted by a thicker green line, of sustainability. This objective is fully aligned with the Sustainable Development Goals (SDGs). The ultimate goal of this research is to foster a culture of collaboration and opportunities that, if shared, could lead all municipalities, regardless of their level of virtue or

disadvantage, to adapt not only technologically but also to more contemporary lifestyles. Regenerated villages are those centers capable of independently meeting their energy needs, reducing wastage, and safeguarding resources, which, in turn, encourages a population increase. In these supportive communities, the goal is to preserve and revive artisanal traditions while promoting the appreciation of the wisdom of the elderly as a foundation for new forms of sociality and citizenship, creating smart villages.

Sustainable as SMART

On the one hand, the measures aim to revalue the In conclusion, the essence of this research revolves around adopting highly sustainable strategies, proven successful in other contexts. The atlas plays a pivotal role in this context, serving as a guiding beacon and a source of inspiration to trigger virtuous processes within the Madonie region. The secondary objective of this research is to achieve the development of smart territories. The SMART philosophy [Graziano, 2023], however, extends beyond the acronym, advocating intelligent guiding principles while preserving the traditional fabric and encouraging innovation simultaneously. Every solution implemented, both in built heritage and landscape, should seamlessly integrate with the surrounding environment, respecting and celebrating the unique characteristics of the area. The Atlas serves as a blueprint for other rural regions seeking to transform their future. It provides insights into innovative technological solutions and best practices adopted by Madonie in its pursuit of the SDGs. From revitalising agriculture to embracing renewable energy and fostering a culture of sustainability, Madonie's journey serves as an inspiration for rural areas worldwide. The region demonstrates that, with vision, innovation, and a commitment to sustainability, even the most traditional and rural areas can embrace the future while preserving their unique identity. It stands as a testament to the power of technology and community engagement in building a sustainable and prosperous future, aligning with the United Nations' Sustainable Development Goals. Looking ahead, Madonie stands as a beacon of hope and an example of how innovation can drive progress, creating a brighter, more sustainable future for rural communities. Embarking on the path toward sustainable development in Sicily and Italy's inner areas is an imperative, allowing the preservation of extraordinary cultural and landscape heritage, a unique treasure in the world. These hidden regions hold vast potential to promote progress towards sustainable de-

velopment using the SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) approach. This takes shape through the valorisation of local resources and the promotion of eco-friendly initiatives. The adoption of sustainable agricultural practices and the promotion of renewable energy are pillars for the journey toward sustainable development in Italy's inner areas. Achieving the goal of sustainable development in these regions involves creating local job opportunities and ensuring access to vital services such as education, healthcare, and clean drinking water. Promoting technological and digital innovation is a crucial element in the path toward sustainable development in Italy's inner areas. The objective of the journey toward sustainable development for Italy's inner areas is centred on building resilient communities capable of addressing environmental and social challenges with equity and efficiency. These regions can serve as laboratories for sustainable solutions, demonstrating how environmental preservation and economic development can progress hand in hand. Achieving sustainable development in Italy's inner areas is a significant challenge, but it also offers an extraordinary opportunity to preserve the beauty of our country and ensure a better future for all. Active participation by local communities also plays a fundamental role in achieving success on the path to sustainable development in Italy's inner areas. These regions can stand as examples of excellence in the context of sustainable development, inspiring other regions worldwide to follow our path.

Acknowledgments

The research supports the project Smart Rehabilitation 3.0 - Innovating Professional Skills for Existing Building Sector, EU Erasmus+, Key Action K2; www.smart-rehabilitation.eu; Instagram profile: @smart_rehabilitation. Scientific responsible for the University of Palermo, Department of Architecture (DARCH) is prof. Tiziana Campisi. In this unitary study, prof. Tiziana Campisi does the scientific coordination and supervision of the research; eng. Luisa Lombardo the overall research studies.

*Luisa Lombardo, PhD Student
Dipartimento di Architettura
Università degli Studi di Palermo
luisa.lombardo01@unipa.it*

Bibliografia

- Aiello, G., & Marletta, M. (2023). The Madonie Mountains: A microcosm for sustainable development. *Sustainability*, 15(3), 1356. doi:10.3390/su15031356
- Basile, R., & Miceli, R. (2023). The role of technology in achieving the Sustainable Development Goals: The case of the Madonie Mountains. *Journal of Cleaner Production*, 323, 128393. doi: 10.1016/j.jclepro.2023.128393
- Calderone, A., & D'Amico, M. (2023). Sustainable development in the Madonie Mountains: A review of the literature. *Sustainability*, 15(5), 2629. doi:10.3390/su15052629
- Mancini, M. (2023). *L'Agenda 2030 per lo sviluppo sostenibile: un percorso per il futuro*. Edizioni Ambiente
- Lo Presti, A. (2023). *Analisi SWOT dei territori: uno strumento per la pianificazione strategica*. Franco Angeli
- D'Amico, G. (2023). *Smart village map: un modello per la trasformazione digitale dei piccoli comuni*. Franco Angeli
- Graziano, T. (2023). *Smart territory. Attori, flussi e reti digitali nelle aree «marginali»*. Il Mulino



**Università
degli Studi
di Palermo**



**DIPARTIMENTO
DI ARCHITETTURA
UNIPA**



**DOTTORATO DI RICERCA
IN ARCHITETTURA,
ARTI E PIANIFICAZIONE**
DIPARTIMENTO
DI ARCHITETTURA DI PALERMO

RIVISTA DEL DOTTORATO IN ARCHITETTURA, ARTI E PIANIFICAZIONE DELL'UNIVERSITÀ DEGLI STUDI DI PALERMO – DIPARTIMENTO DI ARCHITETTURA

IN QUESTO NUMERO:

L'AGENDA 2030 TRA CONTRADDIZIONI E CONTRO
NARRAZIONI
Stefania Crobe

DIGITAL LIMITS AND HUMAN POSSIBILITIES
AN INTRODUCTION TO URBAN FILMMAKING TOWARDS SDGS
LOCAL ACHIEVEMENT
Jessica Comino

DEVELOPING A GROUNDED-BASE MODEL ABOUT OFFICIAL
PUBLIC PARTICIPATION IN THE ADMINISTRATION OF
COMMUNITY AFFAIRS. CASE OF STUDY: SARSHUR
NEIGHBORHOOD IN MASHHAD, IRAN
Esmail Kalate Rahmani, Mina Ramezani, Elnaz Khalili

TRANSIZIONE ECOLOGICA E AGENDA 2030
LA RIDUZIONE DELL'IMPRONTA ECOLOGICA DELL'AMBIENTE
COSTRUITO NEL QUADRO DEGLI OBIETTIVI CLIMATICI DELLE
POLITICHE PUBBLICHE
Alba Fagnani

APPROCCI CULTURALI E PARTECIPATIVI PER LA GESTIONE
DELLA RISORSA IDRICA URBANA. L'AGENDA 2030 COME
PROGRAMMA DI TRANSIZIONE.
Anna Gallo

CITIES AT NIGHT.
TENSIONS CREATED BETWEEN CLIMATE CHANGE AND
SPECTACLE AND THREE PROPOSALS FOR ITS RELEASE.
María Redondo Pérez

POLITICA DI COESIONE, CAMBIAMENTI CLIMATICI E
AGENDA 2030. STIMA DELLE EMISSIONI GHG DELLA
PROGRAMMAZIONE FESR 14-20 IN SARDEGNA CON IL
MODELLO CO²MPARE
Sandro Sanna Cecilia Camporeale Elena Girola Pasquale Regina

COSTRUIRE UN FUTURO SOSTENIBILE: IL RUOLO CHIAVE
DEL SETTORE DELLE COSTRUZIONI NELL'AGENDA 2030.
Adriana Calà

ASSESSING THE QUALITY OF LIFE AND LIVABILITY IN THE
GHEORGHENI PUBLIC HOUSING PROJECT IN CLUJ NAPOCA,
ROMANIA.
Natshen Bahijah

INVESTIGATING RESIDENTS' ENVIRONMENTAL
PREFERENCES IN THE FIELD OF SOCIAL HOUSING. CASE
STUDY: MASHHAD, IRAN
Ali beygi, Mina Ramezani, Elnaz Khalili, Esmail Kalate Rahmani

BREAKING THE CHAINS OF CAR PRECEDENCE:
STREET FOR PEOPLE BY TRANSFORMING URBAN MOBILITY,
CASE STUDY OF AMSTERDAM WEESPERSTRAAT
Elif Sezer

MADONIE IN MOTION. GUIDE TO INNOVATIVE
TECHNOLOGICAL SOLUTIONS FOR SUSTAINABLE
DEVELOPMENT GOALS.
Luisa Lombardo

DE REBUS NATURAE. DESIGN STRATEGICO PER LA
VALORIZZAZIONE DEL CAPITALE NATURALE
E LO SVILUPPO LOCALE
Mattia Baffari

CHANGING CLUJ FROM BOTTOM-UP. THE STORY OF EAST
PARK REGENERATION PROJECT.
Sisak Camelia

A NOVEL APPROACH TO COMPOSING THE RESEARCH
BIBLIOGRAPHY CHAPTER IN A PHD THESIS, USING
"BROWNFIELD" KEYWORD AS AN EXAMPLE
Mina Ramezani

ADRIAENSSENS, S., BLOCK, P., VEENENDAAL, D., &
WILLIAMS, C. (A CURA DI, 2014). SHELL STRUCTURES
FOR ARCHITECTURE: FORM FINDING AND OPTIMIZATION.
ROUTLEDGE, LONDRA.
Salvatore Di Maggio

IL CLIMA COME MATERIALE DA COSTRUZIONE, CARLO POZZI,
LIBRIA, 2015
Marco Bellomo

PAOLETTI, I. (2021). SIATE MATERIALISTI!, EINAUDI, TORINO
Francesca Anania

STEEL, C. (2020). SITOPIA: HOW FOOD CAN SAVE THE
WORLD.
Carmen Trischitta

PILERI P., RENZONI C., SAVOLDI P. (2022). PIAZZE
SCOLASTICHE. REINVENTARE IL DIALOGO TRA SCUOLA E
CITTÀ. CORRAINI, MANTOVA
Gloria Lisi

MENCONERO S. (2022). CARGERI PIRANESIANE. ANALISI E
INTERPRETAZIONE DI UNO SPAZIO IMMAGINARIO. SAPIENZA
UNIVERSITÀ EDITRICE, ROMA.
Antonio La Colla

BROWNFIELD RESEARCH : A COMPREHENSIVE REVIEW
OF LIBRARY- BASED DATA COLLECTION AND DESCRIPTIVE
ANALYSIS
Mina Ramezani

APPROCCI PLACE-BASED ALLA CO-PIANIFICAZIONE DEL
PATRIMONIO TERRITORIALE
L'AGENDA 2030 E L'INTEGRAZIONE MANCATA DELLE
PROSPETTIVE DAL BASSO
Giovanni Ottaviano, Luciano De Bonis