BDC

Università degli Studi di Napoli Federico II

13

numero 1 anno 2013

BDC

Università degli Studi di Napoli Federico II

13

numero 1 anno 2013

Towards a Circular Regenerative Urban Model

BDC

Università degli Studi di Napoli Federico II

Via Toledo, 402
80134 Napoli
tel. + 39 081 2538659
fax + 39 081 2538649
e-mail info.bdc@unina.it
www.bdc.unina.it

Direttore responsabile: Luigi Fusco Girard
BDC - Bollettino del Centro Calza Bini - Università degli Studi di Napoli Federico II
Registrazione: Cancelleria del Tribunale di Napoli, n. 5144, 06.09.2000
BDC è pubblicato da FedOAPress (Federico II Open Access Press) e realizzato con Open Journal System

Print ISSN 1121-2918, electronic ISSN 2284-4732

Indice/Index

SHARING KNOWLEDGE TO PROMOTE ACTIVE PROTECTION. CASE STUDY: SASSANO, CILENTO NATIONAL PARK

Paolo Franco Biancamano, Serena Viola, Maria Rita Pinto

Abstract

The paper deals with strategies for built heritage protection, creating conditions of design synergy between citizens, users and administrators. Sharing the constructive knowledge is a prerequisite for tackling settlements' vulnerability, contrasting the imbalance between public and private. The research takes as a case study the historic urban landscape of Sassano in the Cilento National Park. Thirty years later the 80's earthquake, built environments' transformations are linked both to the lack of technical knowledge and to a misuse of public funding for reconstructing. The paper testifies the effort to reverse a trend aiming to erase the constructive identity of landscapes. Acquiring and disseminating architectural and technological knowledge opens the path to development scenarios, arising from the sharing of context-aware protective micro actions.

Keywords: protection, technology, landscape

CONDIVIDERE LE CONOSCENZE PER PROMUOVERE LA TUTELA ATTIVA. CASO STUDIO: SASSANO, PARCO NAZIONALE DEL CILENTO E VALLO DI DIANO

Sommario

Il contributo affronta la questione delle strategie per la protezione del patrimonio costruito, creando condizioni di sinergia progettuale tra cittadini, utenti e amministratori. La condivisione del sapere costruttivo sedimentato è un prerequisito per affrontare la vulnerabilità degli insediamenti. La ricerca assume come caso di studio il paesaggio storico urbano di Sassano, nel Parco Nazionale del Cilento. Trent'anni dopo terremoto degli anni '80, le trasformazioni dell'ambiente costruito vengono ricondotte alla perdita dei saperi e ad un improprio utilizzo dei finanziamenti nella ricostruzione. Il contributo testimonia lo sforzo di invertire una tendenza che mira a cancellare l'identità costruttiva dei paesaggi. Acquisire e diffondere una conoscenza architettonica e tecnologica apre la via a nuove opportunità di sviluppo, nella condivisione in un sistema di micro azioni di protezione.

Parole chiave: tutela, tecnologia, paesaggio

1. Introduction

Before the widespread of a scientific approach to the study of building materials and properties, the concept of constructive quality was tied to technical principles and procedures shared by the whole community (Di Pasquale, 1996). In Western societies, the "rule of the art" was the bridge between users, designers and constructors (Galliani, 2002). Keeping a tight relationship with the hosting community, characters of uniformity and consistency, locally, connoted design choices (Caterina and Gangemi, 1991). Since the nineteenth century, the advent of new scientific foundations for building technologies creates a gap between designer's work the and "masons' magisterium". Practices undergo a radical evolution both in terms of final performances and users' involvement (Di Battista, 2006). Traces of this cultural transformation are deeply testified by built landscapes: especially the internal areas are the result of pressures and interactions of materials, techniques and knowledge (Gurrieri, 2011). In the contemporary scenario of turbulent cultural and societal change, the architectural technology is asked to contribute to built landscapes' prosperity, acting on users' awareness and commitment (UN- Habitat, 2012).

According to this need, the Laboratory of Recovery and Maintenance at the University of Naples Federico II (L.R.R.M.) is working for the foreshadowing of a knowledge model of the built environment developed to design its recovery. In recent years, the scientific effort went aligning with the indications of the Historic urban landscape Recommendation (UNESCO, 2011). Several experiences have been launched with the aim to broaden the scope of investigation to the challenges imposed, on the built, by the imbalance between public and private, taking into account neglect and abandonment. Extensive studies have been directed toward the understanding of the constructive conception, and the sharing of technological knowledge with citizens, technicians and local administrators according to processes similar to those completed in the past.

In this direction, the L.R.R.M. Lab has been working on knowledge methods and sharing procedures for the Municipality of Sassano, within the project *CilentoLabScape: an integrated model for the activation of a Living Lab in the National Park of Cilento and Vallo di Diano Alburnums*, FARO Program – Funding for Start the Original Research, 2012-2014. The team focused its efforts on ancient settlements' vulnerability, taking into account changes occurred in the technological culture among local workers and building contractors over the last thirty years. As part of the *Cilento Living Lab*, the search experience aimed at defining design strategies to counter the processes of identity loss affecting historic urban landscape, due to a progressive decrease in the ability to interact with the built, and to understand the logic that substantiates choices in the design of constructive elements.

2. Sedimented identities and transition processes

An intense scientific work has been carried out, starting from the 70s in Italy, for the protection of small settlements (Caterina, 1989). Despite the variety of materials, technical solutions, morphologies, uniqueness is the character that connotes them. Resulting from the combined action of natural and human factors in a constant dynamic interaction, the constructive choices taken in these villages, constitute distinguishing features to the landscape. Fielding cultural and operational approaches, several researchers have long worked for the recognition of documentary values, and the affirmation of the collective utility of ancient landscapes (Musso and Franco, 2006). The small settlements are now

acknowledged not only as the product of political, economic and social vicissitudes, but they are recognized as the result of a constant commitment in developing a constructive culture rooted in the territory (Galliani, 1984).
Forty years after the debates promoted by the Ancsa (Gabrielli, 1993), small settlements, especially those of the internal areas, return, today in the programming of EU fund's axis 2014-2020. The definition of "internal areas" contained within the Italian document *Metodi e obiettivi per un uso efficace dei fondi comunitari 2014-2020* «[...] away from centres of agglomeration and service and development trajectories unstable but at the same time equipped with resources that are lacking the central areas, wrinkled with demographic problems but at the same time strongly polycentric and with high potential to attract [...]» (Ministero della Coesione Territoriale, 2012, p. 12). These areas represent true excellences, whose natural and cultural value is not reproducible, because it belongs only to those "places". Recomposing a material culture dangerously compromised by globalization is the commitment with which the scientific community can address today the issue of the built landscape of the internal areas. Basing on the scientific skills already acquired, to promote their identity means to approach under multifocal and multidisciplinary perspectives, the consequences induced by trans-formative processes.
In the awareness of the historical, architectural and urban differences, the principle of gradual growth, connotes all the processes of technological transition for built environments over the past (Grin *et al*., 2010). The evolution of constructive systems and logics has always been a long-term process, entailing markets, user practices, cultural discourses, and policies (Geels and Schot, 2007). The geographical characteristics, climatic conditions, the nature of the territory are the recurring parameters of settlement choices. Over the centuries, thanks to the continuity of materials and techniques for laying, building activity is as a work of continuous expansion and rejoining, "repeating what had already been said" (Benvenuto, 1984). Transformations are intended to complete, reconstruct, expand the existing, meeting users' changing needs (Di Battista, 1990). The activities of modification do not alter the primary idea which allowed the manufacturer to rule materials, overcoming their natural tendency to fall, putting up resistance to the forces of gravity. A predominantly incremental character has always connoted socio technical transitions in terms of built settlements (Markard *et al*., 2012). The reinterpretation of constructive solutions testifies the persistence of material and technical procedures for each element to the building. Skilled workers show the search of formal virtuosity not only for those elements with decorative attitudes. In a technological continuity, buildings affect landscape with a chorality of solutions for walls, roofs, openings, frames, finishes.
During the '900, new technologies distort the growth dynamics of settlements: inserting extraneous performances, they impact on landscape's relationships and characters. Significant role in the transformation processes is played by the overlap between extraneous constructive logics (Nevens and Frantzeskaki, 2013). The most impressive is undoubtedly the interaction between load-bearing masonry and reinforced concrete elements. This trend undergoes a worsening in virtue of the management approach to the built adopted in more recent years, based on corrective actions taken to episodic damages. Due to these technological transformations, buildings once, harmoniously inserted in the landscape textures suddenly lose their main characters of quality and authenticity. Technologies, that always witnessed the communities' identity, contribute to producing the main failures in landscape.

Over the past few decades, the legislation governing the operation on built heritage contributes to overturn the original principle of progressive growth. In this regard, the law n. 219 of 14 May 1981 is emblematic to the internal areas affected by the earthquake of Irpinia (Conversion into law, with amendments, of Decree-Law of 19 March 1981 n. 75 laying down additional measures in favor of populations affected by the event's earthquake of November 1980 and February 1981. Organic measures for the reconstruction and development of the affected areas. OJ 134 of 05.18.1981 – Ordinary Suppl.).
It assigned to the owners of homes damaged, destroyed or to demolish, a contribution equal to the entire cost required for reconstruction, with the possibility of increasing the living area if this had been inadequate for the needs of the household. The law gave the opportunity to the persons entitled to use this contribution for the purchase of another property within the same province, transferring ownership of the damaged building to the City. The law encouraged a gradual transfer of population to new settlements, with the emptying of the historical centres, many of which still today are in a state of neglect. Even for repairing the damaged buildings, the law gave a sum equal to the cost of the works, reserving, however, to evaluate the "cost-effectiveness" of such action, which, if too expensive, would have been converted into demolition and reconstruction. Many buildings in the small settlements of the internal areas, without constructive relevance, undergo transformations pursuant to Law no. 219. The legislation promotes a set of operations carried out on elements such as masonry, roofs or frames, which deny the overall quality of a past built harmoniously inserted in the landscape. The poor quality of materials and techniques is a key factor in the loss of qualities: it causes the distortion of elements' performances, with few improvements in case of earthquake.

3. Case study: the municipality of Sassano

The study area is the territory of Cilento and the network of municipalities in the interior, which has notable features of merit and excellence. The quality of the built are offset by a systematic social and environmental decline. It is reflected in a steady drop in demographic, a little innovative production environment, and a limited tourist attractiveness (Caterina, 2009). The built landscape of small municipalities underwent over the past 40 years, profound changes, very obvious not only to the urban scale, but even under a constructive perspective (Pinto, 2009).
If the 1980 earthquake did not cause extensive damages to structures, very devastating was the subsequent reconstruction carried out with funding from the Law 219/81. A radical transformation of the built structures and finishes is realized, with direct relapses on landscape characters and performances. Structural actions become often, the main causes of unforeseen failures and degradations, involving textures and the continuity of profiles. Their observation has been assumed as a privileged opportunity to take into account technological transformations, put in place over the last twenty years in terms of technical solutions, materials and procedures. In the face of an intense commitment to recovery, the municipalities of Cilento show a widespread loss of quality, which manifests itself both in the state of traditional built, often distorted by improper handling, both in the quality of life. Assuming the small municipality of Sassano (Fig. 1) as case study, the building changes were examined in relation to their ability to induce a loss of construction identity. Policies and technologies of reconstruction after the earthquake, in Sassano, constitutes the starting point for an extensive data selection and acquisition on the residential sector.

Fig. 1 – Sassano

Photo: Paolo Biancamano

The ISTAT census of 2001 showed the presence of 2,314 homes, of which 81, or 8% populated habitable; 18.8% (420) of the houses are not inhabited, unusable or unsafe. The Tab .1 shows the location of housing.

Tab. 1 – Localisation

Place	Altitude	Centre / nucleus	Housing
Sassano	491	Centre	1,037
Caiazzano	457	Fraction	196
Silla	456	Fraction	276
Varco Notar Ercole	460	Fraction	371
Bagno	465	Inhabited nucleus	33
Fontanelle	470	Inhabited nucleus	27
Molinella	453	Inhabited nucleus	16
Ponte Cappuccini	455	Inhabited nucleus	46
Santa Maria	470	Inhabited nucleus	60
Vigne	458	Inhabited nucleus	47
Individual houses			205

Source: ISTAT (2001)

Data highlight that the city center has 1,037 homes, compared with a resident population of less than 1,700 inhabitants (Tab. 1). In percentage terms, there is a strong discrepancy between homes and nonmigratory population: 34% of the population resides where there are 45% of the total built heritage. The historical evolution of the buildings (drawn in the *Explanatory Report and Strategy Document of the Comune di Sassano PUC*) points out that the settlement structure within the municipal area has been established by the first post-war until 1989. After this phase, the development has slowed down. The evolution analysis for built environment, shows a settlement tendency to locate new dwellings in the valley, resulting in the continued urbanization of agricultural areas. Data were collected at the provincial offices of Civil Engineers and Municipal Technical Office of Sassano. Some details have been suggested by building contractors operating on the territory (Tab. 2):

- *Provincial Bureau of Civil Engineering, Salerno,* through the consultation the structural transformations carried out in Sassano were taken into consideration. Particular attention was paid to the two decades between 1982 and 2002, due to the urban transformation produced. Most of the building work consisted of new construction, demolition and reconstruction or renovation. This has been made possible, and indeed encouraged, by the law for the reconstruction of the earthquake Campania, which assigned a contribution reduced by 20% in the case of restoration and a full contribution in case of demolition and reconstruction. A more accurate analysis of the restoration work has been carried out in order to identify the types of intervention. The most common operations are: the renovation of existing wood floors in reinforced concrete, the reinforcement of masonry walls, curbs, re-roofing. These interventions were guided by the belief that the seismic strengthening of the building could be secured only through a change in its static operation, to assimilate as much as possible to that of a reinforced concrete building. The Provincial Bureau of Civil Engineering, allowed us to see 13 building projects with replacement of structural elements.
- *Municipal Technical Office of Sassano (SA),* in the archives six projects were analyzed. The examination was conducted on the most significant ones, which relate to the consolidation and replacement of structural elements for historic buildings located inside the settlement, made with the contributions of the Law 219/81.
- *Building contractors*, reliefs of the techniques used during operations financed with the 219/81 have been taken into consideration. The photographic surveys were required for access to finance during the state of progress of the work.

Tab. 2 – Observed design documents

Interventions 1982-2002	**Number (308) and typology**
Actions	Consolidation with replacement of structural elements (23%)
	Renovation (significant expansion of volumes, substantial transformation of the building, etc.) (21%)
	Demolition and reconstruction (21%)
	Completion (1%)
	New construction (33%)
Building contractors	83
Designers	26
Localization of interventions	Residential area (32%)
	Fractions (24%)
	Rural areas (39%)
	Other areas (5%)

Source: Provincial Bureau of Civil Engineering, Salerno

In the archives of the civil engineering, nineteen projects were examined. They are drawn from seven different designers. Eight construction companies worked. Fourteen projects are

accompanied by construction details that would seem to be reproduced from the same source. The survey of the buildings involved in the consolidation contributed to the reconstruction of the activities carried out. The comparison of project documentation and status of places testifies that the following works have been performed:

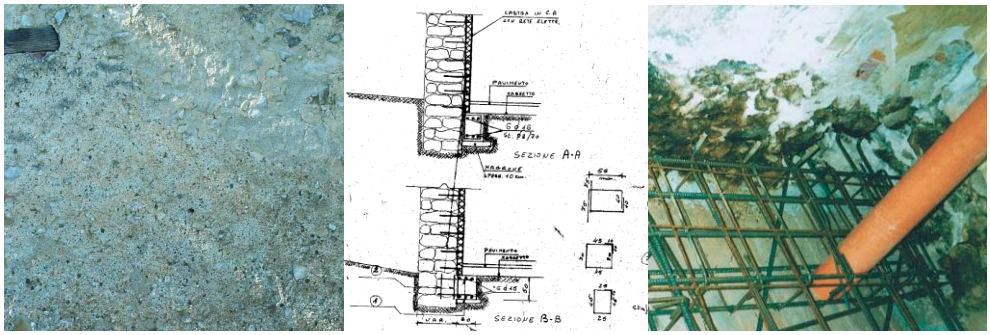
- Masonry foundation (Fig. 2)
  - inserting underpinnings of reinforced concrete around the perimeter of the walls with hooks in the wall and anchor bolts drowned in concrete (12 of 19);
  - replacing the hornet's nest with foundations, in reinforced concrete (3 of 19);
  - no intervention in foundation (4 of 19).
- Masonry (Fig. 3, Fig. 4)
  - reinforced plaster (internal and external) with wire mesh φ 6 with thickness from 3 to 4 cm (14 out of 19);
  - internal partition wall reinforced with wire mesh φ 6-8 with a thickness of 5 to 10 cm with hooks to the existing masonry anchors through injections and armed (4 of 9);
  - injections of blended cement (14 of 19);
  - reinforcements with another material, mainly bricks (2 of 9);
  - no intervention on partitions (1 of 9);
  - replacing of the architraves (wood or stone) of doors and windows with reinforced concrete elements (14 of 19);
  - replacing of the architraves (wood or stone) of doors and windows with steel elements (2 of 19);
  - no intervention on architraves (3 of 19).
- Floors (Fig. 5)
  - replacement of wooden floors with reinforced concrete floors (19 of 19);
  - reinforcement of the wooden floors with steel beams IPE (1 of 19).
- Roofs (Fig. 6)
  - replacing the wooden shell with reinforced concrete slabs (12 of 19);
  - replacing the wooden shell with reinforced concrete curbs (7 of 19).

The descriptions illustrate the measures identified within the analyzed projects. Tables show the construction details, original solutions, the photos of the intervention achieved or in progress, a brief description of the materials used and their compatibility with traditional ones.

4. Discussion: critical issues and future developments

In marking the history of our civilization, the evolution of techniques could be assumed as one of the primary elements of mediation between society and culture, between knowledge and spaces, local economies and vocations. Cultural continuity for centuries connotes the constructive choices made in Sassano, as in many other small settlements. Despite the diversity of specific compositions and distributions of space, resident communities and in particular, those involved with building activities, are the repositories of local identity. Knowledge, in its constructive dimension, resides in communities, and it is generated through collective relationships (Maaninen-Olsson e*t al*., 2008).

Fig. 2 – Prevailing interventions: foundations



a) Original solution *b) Post earthquake - design* *c) Post earthquake - design*

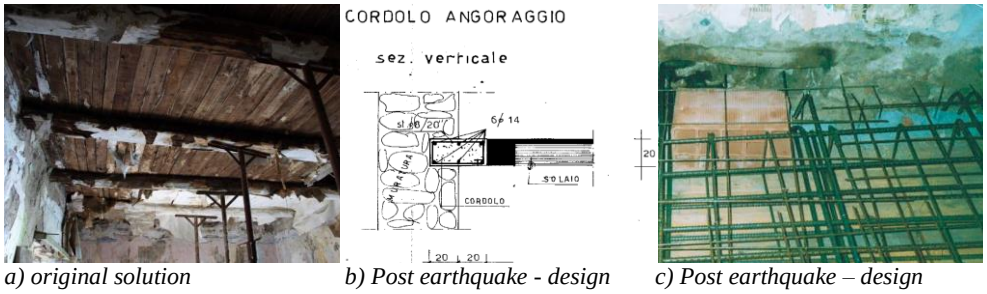
Photos and drawing: Paolo Biancamano

Fig. 3 – Prevailing interventions: masonry

a) original solution *b) Post earthquake - design*

Photos: Paolo Biancamano

Fig. 4 – Prevailing interventions: floors



a) original solution *b) Post earthquake - design* *c) Post earthquake – design*

Photos and drawing: Paolo Biancamano

Fig. 5 – Prevailing interventions: architraves

a) Original solution *b) Post earthquake - design*

Photos: Paolo Biancamano

Fig. 6 – Prevailing interventions: roofs

a) Original solution *b) Post earthquake - design*

c) Original solution *d) Post earthquake - design*

Photos: Paolo Biancamano

Over the past four decades, the architectural technology witnessed a profound change in the channels of research and dissemination for the built. The case of the municipality of Sassano is emblematic: its urban landscape has been affected by radical changes, linked all in all, to the advent of new materials and technologies. The examination of the solutions used in the post-earthquake interventions, brings to light the cultural evolution of the settled community. The following problems arise:

- adding new volumes and superstructures;
- replacing the traditional elements of exterior finish;
- changing the structural design of buildings;
- loosing knowledge about traditional techniques.

Data on the housing stock showed a strong depopulation of the historic part of the town (45% of the built houses 34% of the population) and a constant population of the valley (with further land consumption). In light of these considerations, it is possible to draw a negative balance of the funding policies of the law 219/81, which did not cause noticeable effects, nor social, nor on the level of quality of place and identity. The benefits on structural safety are not easy to interpret, the actions supported and implemented in the study area were also carried out in other territories in Italy. In particular, the earthquakes in Umbria and L'Aquila have been a testing ground for saying that sometimes the consolidation does not produce the desired effect, causing in some cases, even the worsening of the structural design. The difficulty of transferring devoted knowledge to the "non-technical" stakeholder, emerges from this framework. Within the evolutionary dynamics of small settlements, however, designers, construction companies and institutions become the bearers of a lack of perception about landscape qualities.

In light of these analyses, central issue for the future of small settlements becomes the fore showing of protection strategies involving an aware resident community. Forty years after the debates on the historical centers, active protection is a shared, incremental process that has no more reason to exist in large loans disbursed from above, but in micro actions directly operated by a context-aware community. Active protection is a strategy that connects "knowing with doing", moving from the recognition of the physical, social and economic determinants of settlement patterns. It consists in assisting the community towards a slow technological transition, context aware about the material culture, with the orientation and harmonization support of scientific experts.

Recognizing the participation and negotiation of choices a key role in overcoming internal imbalances and avoiding any risk of globalization, active protection imposes the critical prediction of the costs due to a loss of identity. Forecasting impacts is a 'hinge' between the detection of users' needs and technical solutions. Instance priority becomes the understanding of the relationship between material culture, technology, and attractiveness of sites, in terms of ability to generate growth. Acknowledging the untapped potentials of existing buildings as new driving forces for economies, an active approach to protection links the necessity of ensuring the conservation of resources with the urgency of awaken internal areas. Creating a sense of ownership, sharing responsibilities are the conditions for promoting a reactivation of local circuits.

Based on this vision, architectural technology is involved in redirecting the development and growth of ancient settlement, to return quality and authenticity to landscapes. Through a process of understanding, experts, building contractors working on the territory, administrators, could be accompanied to the re-composition of conflict-induced

destabilizing forces. Sharing knowledge on sedimented identities is supposed to become the flywheel to address the imbalance between public commitments and private roles, counteracting the disappearance of crafts and local traditions. The formation of an extensive network of small and medium-sized artisan enterprises able of managing the slow technological transition towards sustainability could be therefore assumed as one of the main areas of work for a technological culture aimed at the activation of positive processes in internal areas, overcoming negative impacts related to landscaping failures.

References

Benvenuto E. (1984), "Del recupero: la parola e la cosa". *Recuperare*, vol. 11, pp. 206-209.

Caterina G. (1989), *Tecnologia del recupero edilizio*, UTET, Torino.

Caterina G., Gangemi V. (1991), *Recupero delle preesistenze e forme dell'abitare*, vol. III. Sergio Civita Editore, Napoli.

Caterina G. (2009), "Manutenzione di sistemi urbani ed ambientali", in Gambardella C. (a cura di), *Atlante del Cilento*. Edizioni Scientifiche Italiane, Napoli, pp. 59-63.

Di Battista V. (1990), "Compresenze nel tempo". *Recuperare*, vol. 46, p. 133.

Di Battista V. (2006), *Ambiente costruito*. Alinea Editrice, Firenze.

Di Pasquale S. (1996), *L'arte del costruire*. Marsilio Editore, Venezia.

Gabrielli B. (1993), *Il recupero della città esistente, saggi 1968-1992*. Etas Libri, Milano.

Galliani G.V. (1984), "Il recupero: incontro, confronto, scontro di due culture". *Recuperare*, vol. 13, pp. 391-395.

Galliani G.V. (2002), *Tecnologia del costruire*. Alinea Editrice, Firenze.

Geels F.W., Schot J. (2007), "Typology of sociotechnical transition pathways". *Research Policy*, vol. 36, Issue 3, pp. 399-417.

Grin J., Rotmans J., Schot J. (2010), *Transitions to sustainable sevelopment. New directions in the study of long term transformative change*. Routledge, New York, NY.

Gurrieri, F. (2011), *Guasto e restauro del paesaggio*. Edizioni Polistampa, Firenze.

ISTAT (Italian Institute of Statistics) (2001), *Census of population and housing*. www.istat.it.

Maaninen-Olsson E., Wismen M., Carlsson S.A., (2008), "Permanent and temporary work practices: knowledge integration and the meaning of boundary activities". *Knowledge Management Research and Practice*, vol. 6, pp. 260-273.

Markard J., Raven R., Truffer B. (2012), "Sustainability transitions: an emerging field of research and its prospects". *Research Policy*, vol. 41, pp. 955-967.

Musso S.F., Franco G. (2006), *Guida agli interventi di recupero dell'edilizia diffusa nel Parco Nazionale delle Cinque Terre*. Marsilio Editori, Venezia.

Ministero della Coesione Territoriale (2012), *Metodi e obiettivi per un uso efficace dei fondi comunitari 2014-2020*. www.coesioneterritoriale.gov.it.

Nevens F., Frantzeskaki N., Gorissen L., Loorbach D. (2013), "Urban Transition Labs: co-creating transformative action for sustainable cities". *Journal of Cleaner Production*, vol. 50, pp. 111-122.

Pinto M.R.(2009), "Il riuso e la manutenzione per la valorizzazione del patrimonio rurale. Il sistema dei mulini del comune di Ottati", in Gambardella C. (a cura di), *Atlante del Cilento*. Edizioni Scientifiche Italiane, Napoli, pp. 571-576.

UNESCO (2011), *Recommendation on the Historic Urban Landscape*. www.unesco.org.

UN-Habitat, (2012), *State of the world's cities 2012/2013, Prosperity of cities*, United Nations Human Settlements Programme. MJS, Nairobi, Kenya.

Paolo Franco Biancamano
Dipartimento di Architettura, Università di Napoli Federico II
Via Tarsia, 35 – I-80135 Napoli (Italy)
Tel.: +39-347-6356596; email: paolofranco.biancamano@unina.it

Serena Viola
Dipartimento di Architettura, Università di Napoli Federico II
Via Tarsia, 35 – I-80135 Napoli (Italy)
Tel.: +39-081-2538431; email: serena.viola@unina.it

Maria Rita Pinto
Dipartimento di Architettura, Università di Napoli Federico II
Via Tarsia, 35 – I-80135 Napoli (Italy)
Tel.: +39- 081-2538404; email: pinto@unina.it