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Sustainable Approaches and Interventions for the Conservation of Abandoned Towns in Southern Italy

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Declaration

I hereby certify that this thesis is the result of my own independent investigation, except where otherwise stated. Other sources are acknowledged by explicit references.

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List of Abbreviations and Acronyms

AD	Albergo Diffuso
ADBC	Albergo Diffuso Borgo di Castelvetero
ADI	Associazione Nazionale Alberghi Diffusi
AEIDL	European Association for Information on Local Development
ECOLISE	European Network for Community-Led Initiatives on Climate Change and Sustainability
ECOSOC	United Nations Economic and Social Council
EPA	US Environmental Protection Agency
GEN	Global Ecovillage Network
ICOMOS	International Council On Monuments and Sites
RIVE	Italian Ecovillage Network
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNRISD	United Nations Research Institute for Social Development
UN Habitat	United Nations Centre for Human Settlements
TS	Torri Superiore

Abstract

Defined as towns or villages that have been abandoned by their original inhabitants, so-called 'ghost towns' are a sub-product of the opposing forces of excessive urban growth on the one hand and decline of rural regions on the other. Natural disasters, economic and demographic decline, armed conflicts, disease and environmental contamination are often the drivers for their abandonment. A large concentration of these abandoned small villages is found in the impoverished Southern regions of Italy. To investigate this problem and identify conservation approaches that could generate new dynamics to the abandoned historic villages, the research starts by identifying the linkages between globalisation, rapid urbanisation and ghost towns. This is followed by an analysis of the root causes of ghost towns in US, Australia and the UK and, more specifically, in Italy in an attempt to define a ghost town typology. With this in mind, the research investigates integrated conservation approaches, which could promote the restoration of abandoned towns, strengthening their local identity and enhancing resource-efficient local economies. Principles and strategies associated with the sustainable urban conservation concept are then summarised in a fourfold theoretical framework, factoring in the context of ghost towns and providing the basis for a comprehensive approach to their rehabilitation. Based on these considerations, the research considers two potential scenarios of rehabilitation: a community-led approach to conservation demonstrated by the medieval village Torri Superiore embedded in ecovillage principles; and the *Albergo Diffuso* hospitality concept demonstrated by *Albergo Diffuso Borgo di Castelvete*, acting as social, cultural and economic stimuli to depopulated villages. In the concluding chapters, wider implications of the findings are presented and recommendations to support further conservation interventions and research in Southern Italy are presented.

Key-words

urban conservation, abandoned towns, depopulation, ecovillages, rehabilitation, sustainability, *Albergo Diffuso*

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1. Introduction

"Where there is ruin, there is hope for a treasure." (Rumi, 13th Century)

Urban conservation is a concept and practice of modern times (ICOMOS, 2009). For well over a century national governments in Europe have conserved monuments, built museums, designated historic areas, for a variety of reasons and at considerable expense (Ashworth and Howard, 1999). They have created national organisations, legislative frameworks and working practices to identify, preserve and interpret national and local heritage.

During the same period, unprecedented development of the urban environment has strongly influenced urban transformation (Descamps, 2012). Globalisation, demographic changes, and economic pressures were the main factors driving change in towns and cities, and directly impacting on the preservation of historic urban environments (The Getty Conservation Institute, 2009).

Immigration and population growth lead to rapid urban expansion and increased density of urban settlements (UN Habitat, 2001). Alongside this, emigration from many rural regions has resulted in obsolescence, stagnation and even abandonment of entire settlements. The diverging trends of growth of cities and decline of smaller settlements and remote rural villages (Antrop, 2004) reflect larger social, economic, and cultural changes that have shaped Europe in recent decades.

In 2007, for the first time in history, the global urban population exceeded the global rural population (UN Habitat, 2010). The world population has remained predominantly urban ever since. In 2014, Europe ranked the third most urbanised region of the world, with 73 per cent of its population living in urban areas (World Urbanisation Prospects, 2014). As Europe continues to urbanise, it is predicted that by 2020 four out of five European citizens will be living in cities (European Environment Agency, 2009).

One consequence of urbanisation is increasing numbers of so-called 'ghost towns': formerly thriving towns or villages of historic and cultural significance now abandoned by their original inhabitants, whether due to natural disaster or for economic, demographic, environmental or infrastructural reasons. A large concentration of these abandoned small villages can be found in the Southern regions of Italy.

A combination of minimal maintenance and slow decay of the remaining fragile constructions (Russo, 2014), and national and local governments' failure to protect historic settlements in accordance to the Code of Cultural and Landscape Heritage (Settis, 2006), makes the conservation of uninhabited historic urban landscapes in Southern Italy a complex cultural challenge even where they have been accorded

some form of statutory protection intended to ensure their continued survival.

Concomitantly the availability of the depopulated historic urban landscapes presents many opportunities, in particular, when considered in conjunction with the emergence in Europe of social entrepreneurship initiatives and community-led solutions dedicated to exploring new lifestyle choices, technology applications, ownership structures, decision-making mechanisms, and livelihood strategies compatible with maximising well-being while living within planetary ecological limits (O'Hara, 2013).

Urban and rural areas are interdependent economically, socially and environmentally (The Habitat Agenda, 1996, Chapter IV. C.). For UN Habitat, urban centres are where the battle for sustainable development will be won or lost. The potential triumph can only be achieved with a new integrated vision placing emphasis on rural-urban linkages and treating villages and cities as two ends of a continuum of interconnected human settlements.

Over the last two decades policy makers, urban planners, researchers and practitioners have been grappling with the key question of how to make the urbanised world prosperous, fair, and at the same time environmentally sustainable. For some, the sustainability concept fails to offer guidance on how to arbitrate between the conflicting drivers of economic growth, planetary boundaries and social justice (Dugarova and Utting, 2013). For conservationists, this involves finding solutions which allow historic settlements to adapt to changing social and economic needs without losing the form and character for which they have been placed in value.

Despite its ambiguity and lack of clear measurement criteria, the international community wholeheartedly has adopted the concept of sustainability. Today, sustainable development is no longer simply an intergovernmental or theoretical notion. Many countries, provinces, cities and towns, in both Global North and South, have been establishing policies and programmes aiming to integrate social cohesion, economic security and growth, and environmental integrity (ECOSOC, 2013).

In this period the concepts of sustainability and sustainable development have influenced the field of urban studies generating a comprehensive body of knowledge (Turcu, 2012). This in turn has informed a range of initiatives at different scales such as urban villages (Mare, 2005) millennium communities (English Partnerships, 2007), resilient cities (Nelson, 2014) eco-neighbourhoods (Santos, 2004), transition towns (Hopkins, 2008) ecovillages (Dawson, 2006) and eco-cities (Register, 2006). In related fashion, this research aims to extend the concept of sustainability to the conceptual and physical territory of 'ghost towns'.

With this in mind, the research question was defined as: how contemporary sustainability approaches could support urban conservation practices in abandoned towns in Southern Italy, promoting the restoration of local identity and enhancing resource-efficient local

economies? The primary aim of the research is to develop a comparative theoretical framework to support sustainable conservation policies and interventions in the regeneration of abandoned towns in Southern Italy. A secondary motivation is to explore potential paths of integration of African and Middle Eastern migrants while promoting sustainable conservation practices and reversal of the demographic decline in Southern Italy.

To summarise, this research aims to contribute more widely to the 'sustainable urban conservation' literature and more specifically to 'ghost towns' literature by addressing three main lines of enquiry and practical problems which conservation embraces: why, how and for whom to conserve. The investigation will look at why were the towns abandoned in the first place. It will follow by exploring how sustainable community-led and tourism-led approaches could support an urban conservation practice for ghost towns. It will conclude by reflecting for whom ghost towns should be conserved.

Deprived of the human presence the restoration of historical urban landscapes without people raises extremely complex challenges, where social and technical factors are intertwined with the economic ones (Russo, 2012).

For the anthropologist Vito Teti, contrary to all appearances, abandoned places never die. Recorded in their fragile fabric of place and absence there remains layers of meaning, waiting to be awakened by the early dawn of a sustainable world.



Figure 1: Ghost towns holding the tension between preserving the past and planning the future.
Source: ED Risk.

2. Methodological Approach towards a Sustainable Urban Conservation Conceptual Framework

As stated in Chapter 1 the purpose of this research is to establish the extent and reasons for the abandonment of villages in Southern Italy and to develop a comparative theoretical framework to support sustainable conservation policies and interventions for their regeneration.

The research utilised an inductive strategy, described as the strategy that can address 'what' questions, suitable for exploration and description (Blaikie, 2010). As the research progressed, the inductive strategy provided a flexible structure allowing changes in the research emphasis. The inductive approach has also supported a close understanding of the research context and the collection of qualitative data.

Due to a limited number of potential ghost towns rehabilitation pathways, the research adopted the case study approach. Defined as a research strategy involving empirical investigations of a particular contemporary phenomenon within a real life context using multiple source of evidence (Robson, 2002), the case study methodology allowed in-depth data collection of two cases demonstrating potential rehabilitation of abandoned towns.

The research started with desk-based survey of historic maps, existing literature and data collection on characteristics of:

- Conservation policies in Italy,
- Sustainability approaches to conservation of historic towns,
- Ghost towns,
- Ecovillage-led eco-reconstruction,
- Tourism-led conservation.

In parallel to the literature review, two field trips were undertaken to Southern Italy and a series of semi-structured and in-depth interviews over a period of 2 weeks took place in situ. The transcripts were analysed, and the research interrogated for patterns in the data, producing limited generalisations related to the research question.

The review of literature suggested that although there has been an evolution of concepts regarding sustainable urban conservation there was not an integrated framework that could be used to compare and contrast innovative practices toward sustainable urban conservation of abandoned towns in Italy. To address this gap in knowledge, a fourfold framework of sustainable urban conservation principles and strategies was designed, factoring in the context of abandoned villages and providing the basis for a comprehensive and integrated approach for the identification, assessment, conservation and management of historic sites.

The framework drew from the principles underlying a series of international instruments promoting urban conservation. The instruments researched included *European Charter of the Architectural Heritage* (1975), *UNESCO Operational Guidelines for the Implementation of the World Heritage Convention* (2013), *Recommendation on the Historic Urban Landscape* (2011) and *Lessons from Vernacular Heritage to Sustainable Architecture* (2014).

The framework has also incorporated a series of urban sustainability indicators. Just as sustainability is about finding the balance point between a community's economy, environment, and society, developing a set of principles and strategies for sustainable urban conservation required balancing similar parameters with conservation principles.

Therefore, the framework is composed of four dimensions: Conservation, Ecological, Social and Economic, four principles under each of the dimensions and four strategies under each principle - thus sixteen areas total which needs to be considered for an integrated sustainable urban conservation practice of abandoned towns.

3. Ghost Towns: Causes of Abandonment

*"Filled with the presence of absences. What appears designates what is no more...
what can no longer be seen."* (Michel de Certeau, 1995)

This research aims to investigate the causes of ghost towns, more specifically the phenomenon of abandonment in Southern Italy, to identify effective interventions that could fulfill the cultural duty of the conservation of historic buildings while stimulating the social, ecologic and economic dimensions of sustainability.

Throughout history and across many countries thousands of towns were abandoned for a variety of reasons. A town often becomes a ghost town because the natural resources and economic activity that supported its existence have failed to endure. Natural disasters such as earthquakes, landslides, floods and fires, government neglect, armed conflicts, disease and environmental contamination are repeatedly the drivers for abandonment. Often it is a combination of factors that cause the town to lose its population, fading away in time and transforming itself into a place held only in the memory of those who lived there.

There are multiple ways to define ghost towns. For Brown (1968) a true ghost town is a location where buildings still stand even though population no longer exists. Baker (1991) describes a ghost town as a town for which the reason for being no longer exists. Florin poetically defines a ghost town as *"a shadowy semblance of its former self"* (1982, p.7). Di Figlia adds *"the uninhabited village can be considered both as a discarded element of the modern consumer society and as a regional asset, reinterpreted from a qualifying perspective"* (2013, p.1).

Ghost towns listings in the United States record over 50,000 towns that have faded into memory. They have served the purpose of mining towns, stagecoach stops, military posts, agricultural hamlets, roadside stations, railroad boomtowns, or eastern colonial settlements (Speck, 2015). Some disappeared completely, while some still display fragments of buildings. There are several contributing factors for the abandonment of US towns- some lost their railroads, replaced by a highway system that bypassed them, others saw their natural resources diminish; some were victim of natural disasters.

Ghost Towns in Australia are mostly found in the outback or on the edge of the desert (Walsh, 2015). Years of drought and dust storms, the closure of mines and the re-alignment of railway lines turned old Australian railway towns, like Farina and Beltana into ghost towns. Some of the towns have found a new destiny such as Silverton in the far west outback of New South Wales. Once a silver-ore-mining centre it has featured as the backdrop for more than 140 films and commercials thanks to the light, the character-filled colonial buildings and its scenic desert surround (Brennan, 2010).

Since the Middle Ages, thousands of towns and villages in Great Britain have been abandoned (Fisk, 2015). Several of them have been abandoned for economic reasons such as the closure of mines in Bothwellhaugh and in Tide Mills in East Sussex (Jones, 2010). Hampton-on-Sea in Kent became a ghost town in 1916 due to the erosion of the shore-line with land lost to the sea at an astonishing rate of 6ft per year (Easdown, 2008).

Kenfig in Bridgend choked with vast amounts of sand from nearby dunes engulfing buildings, roads, the entire village and church. Due to government orders in the 1930's the old Lake District village of Mardale Green in Cumbria became one of several across the country that were 'drowned' by the construction of reservoirs or dams. Mardale briefly reappeared from the depths of the reservoir in 2014 after the driest September for half a century.



Figure 2: In USA ghost towns are scattered across prairie lands, hidden in forests or left the middle of desert lands. Source: Wikimedia Commons.

**Table 1: Causes of Abandonment of Towns
in US, Europe, Australia and Italy**

	Combined Causes	Country	Source
Natural Causes			
Landslide	Craco, 1963 Thistle, 1983	Italy US	Italian Statistical Institute US Geological Survey
Earthquake	Pentedattilo, 1783 Castelvetere sul Calore, 1980	Italy Italy	Province of Reggio Calabria Civil Protection Department
Flood & Dam Break	Curon Venosta, 1950	Italy	South Tyrol / Südtirol Info
Sand Storm	Kenfig, Bridgend, 13th Century	UK	The Official Kenfig Community History Project
Fire	Centralia, 1962 ongoing	USA	Smithsonian Magazine, 2005
Depletion of Natural Resources and Subsequent Closure of Industries			
Toxic	Wittenoom, 1993	Australia	Western Australia Department of Lands
Potable Water	Alton, 1856	USA	Handbook of Texas Online
Coal Mines	Bothwellhaugh, 1960	UK	Scottish Mining Website
Silver Mines	Argentiera, 1963 Silverton- ongoing	Italy Australia	Regione Autonoma de Sardinia Australian Bureau of Statistics
Gold Mines	Bannack, 1940	USA	Montana Ghost Town Preservation Society
Oil Industries	Denoya, 1942	USA	Oklahoma History Center
Lumber	Singapore, 1875	USA	History of Manistee County,
Poor Agriculture	Schiro, 2000	Italy	University of Catania
Transport and Accessibility			
Rail lines changes	Farina, 1930	Australia	Australian Geographic, Issue 97
New roads bypassing original town	Cook, 1997	Australia	Trans-Australian Railway Commonwealth Railways
Mutations of the Economic and Social Conditions			
Migration	Torri Superiore, 1910	Italy	Associazione Culturale Torri Superiore
Aging	Riace, ongoing	Italy	Comune di Riace
Urbanisation	Croce, 1949 onwards	Italy	Comune di Santa Croce del Sano
Government Influence			
Infrastructure Construction	Tyneham, 1948	UK	Ministry of Defence
Geological Instability Declaration of Unfitness	Balestrino, 1953 Toco Caudio, 1980	Italy Italy	Comune di Balestrino Quaderno It
Construction of Dams	Mardale Green, 1935	UK	Environment Agency of England and Wales
Disease Outbreak			
	Monterano, 1799	Italy	Italy Traditions
Armed conflicts			
	San Pietro Infine, 1949	Italy	Provincia di Caserta

3.1 Ghost Towns in Italy

In Italy the number of abandoned small villages is progressively increasing with over 5.000 on the whole Italian territory (Russo, 2014) and a large concentration found in the impoverished and seismically active portions of the Southern regions along the Central-Southern Apennines. Di Figlia (2013) has identified 135 towns abandoned during the 20 and 21st centuries, while the University of Catania Agricultural College confirms that, in Sicily alone, there are over 80 abandoned agricultural villages (Guarnaccia, 2015).

Statistical research conducted in 2008 identified 1.650 municipalities at risk of becoming ghost towns by 2016, unable to reach the minimum threshold of 'survival' in the demographic, social, economic and services categories (Confcommercio and Legambiente, 2008). These settlements represent one-fifth of Italian municipalities; one-sixth of the land area; 4.2% of the population and 2.1% of Italian workers.

The research findings provide a striking evidence of the current fragility of rural economies in Italy. It also points out the need to find systemic solutions for the rehabilitation of historic urban centers that could be tested and scaled up to prevent a total rural exodus.

For Russo (2014) the decline and abandonment of the historic centers in Southern Italy have accelerated after World War Two as result of natural disasters, economic distress, migration within and beyond Italy and, more generally, by the villagers' desire to live in new surroundings.

Countries go through major shifts in settlement patterns as their economies shift from agriculture to industrialisation and from industrialisation to post-industrial activities (Cochrane and Vinning, 1988). This is the case in Italy where the shift from traditional agriculture to industrialisation was completed during the 1970s' (Bonifazi and Heins, 2001), with a direct impact in the depopulating and aging rural communities. This coincides with the peak of the decline of the historic towns that took place between the 1950's and the 1980's (Russo, 2014).

The region suffered many earthquakes between 1930's and 1980's. The combination of such natural disasters and a weak economy provided villagers with an opportunity to radically reshape their way of life, with the prospect of switching from a largely rural and agricultural lifestyle to one based a system based on a more modern urban life (Russo, 2014).

In many cases the original town relocated to a nearby site and the abandoned settlement incorporated a new adjective 'Vecchio' or 'Old' to its name: Caianello Vecchia, Apice Vecchia and Alianenello Vecchio. Poor farming, earthquakes, landslides, and war, all contributed to a mass migration of Craco's population to North America between 1892

and 1922. In 1963, a landslide caused the evacuation of the remaining 1,800 inhabitants to a nearby valley called Craco Peschiera while the original Craco remained in a state of crumbling decay.

In other cases the ruins of the ghost cities were given a second life as artist communities, or as refuges for migrants. In 1998, the small village of Riace in Calabria welcomed 200 migrants fleeing the Turkish-Kurdish conflict who have settled in the village occupying empty buildings while changing the course of the demographic decline. Today a quarter of the population is comprised of migrants who have been given new homes and a new start in life.

Pentedattilo is a ghost town on the Monte Calvario, whose five pinnacles resemble that of five fingers. The town was founded as a colony of the Greek city of Chalcis, in 640 BC, and suffered successive invasions. After a series of natural events the village was evacuated in mid 1960's due to the geological instability of the site. Today, it forms part of a network of trails for hiking, biking, trekking and serves as a tourist attraction due to its very decadence (Di Figlia, 2013).

After 25 years of ecological renovation the ruins of the 13th century ghost settlement Torri Superiore was given a new lease of life as an ecovillage and visitor attraction, with many ecological features including the general retrofitting of the village into a cultural centre with guest facilities and apartments for residents; a combined central solar, wood and gas heating system that functions at low temperature under the floor and on the walls; permaculture gardens and fruit orchards and organically farmed olive groves.



Figure 3: The ghostly Craco is today a tourist attraction and film location. Source: Author.

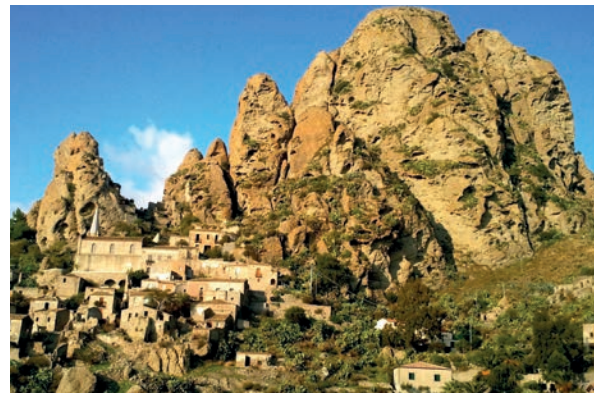


Figure 4: Pentedattilo in Calabria has been rediscovered by artists and youth. Source: Public Domain.



Figure 5: Built in stone over the course of many centuries, Torri Superiore is composed of 160 rooms. Source: Torri Superiore.

Apart from becoming film sets and a tourist attraction for ghost towns explorers, this growing number of settlements offer an, as yet, untapped potential to bridge the gap between old and new, urban and rural, heritage and sustainability. This leads to the second line of enquiry of this research: how sustainable community-led approaches such as Torri Superiore and Riace could support urban conservation practices involving abandoned towns in Southern Italy?



Figure 6: The medieval Tocco abandoned after an earthquake in 1980 has been taken over by the force of nature. Source: Author.



Figure 7: The ghost town Roghudi lies in one of the deepest gorges of the Aspromonte mountains in Calabria. Source: Antonio Violi.

4. Integrated Conservation

“Conservation may be defined as the dynamic management of change in order to reduce the rate of decay.” (Sir Bernard Feilden, 1986)

Conservation concepts and policies are subject to continuous evolution over time (Jokilehto, 2007). Since the 70's conservation emphasis has changed from monuments to living historic towns and the definition of cultural heritage has broadened to include historic areas and cultural landscapes (Johansson, 2010).

In 1975, on the initiative of the Council of Europe, the European Charter of the Architectural Heritage drew attention to problems faced by *“the groups of lesser buildings in our old towns and characteristic villages in their natural or man-made settings”* (Article 1, 1975). In order to meet the challenges posed by obsolescence, deterioration and neglect (Article 6, 1975) the document introduced the concept of ‘integrated conservation’.

The 1987 UNESCO *Operational Guidelines for the Implementation of the World Heritage Convention* included historic towns within the ‘groups of buildings’ category, distinguishing between abandoned historic towns, inhabited historic towns and contemporary towns (UNESCO, 1987, Article 24 i, ii and iii). The 2013 version of the Operational Guidelines recommends that towns that are no longer inhabited, with buildings noteworthy for their purity of style and important historical associations, should be preserved in their entirety together with their natural surroundings whenever possible (UNESCO, 2013, Article 15 ii).

For the purpose of this research, the conservation notion of ‘historic urban landscape’ defined by the *Recommendation on the Historic Urban Landscape* (UNESCO, 2011) is seen as the most significant and can be utilised to analyse the ghost towns phenomena in Southern Italy. This is particularly the case, as it comprises the description of a settlement built following the forms of the territory and thus becoming itself a landscape.

There lies a fertile edge between integrated conservation and concepts of sustainability concepts and practice. Turcu (2012) argues that at a most basic level, all urban regeneration contributes to a certain extent to sustainable development through, notably, the recycling of derelict land and buildings, and the reduction of demand for peripheral development.

Rodwell (2015, p.56) advocates the complementarity between sustainability and conservation principles, which include the wise use of resources to ensure their continuity of supply, minimum intervention to fabric and cultural identity; and *“constructive evolution as opposed to destructive revolution”*.

The historic urban landscape approach recommended by UNESCO aims to integrate

the goals of urban heritage conservation and those of social and economic development. It is rooted in a balanced and sustainable relationship between the urban and natural environment, between the needs of present and future generations and the legacy from the past (2011).

4.1. Conservation in Italy

The Italian Constitution includes the protection of natural and cultural assets by the State amongst its 12 fundamental principles (Taylor, 2008) and sets the distribution and the differentiation between the powers of the State and those of the Regions (Colavitti & Usai, 2006). While the State reserves the exclusive right to protect and safeguard the environment, ecosystems and cultural heritage, the Regions hold the functions of land and territory governance and management, the valorisation of cultural and environmental heritage, and the promotion and management of cultural heritage and activities (Italian Constitution, Article 117).

These differentiated responsibilities have been spelt out in the Code of Cultural Heritage and Landscape of 2004. This is the guiding Italian conservation instrument, and includes and consolidates earlier legislation of 1922 and 1939.

However the implementation of the Legal Code in Italy has been challenged by the lack of competence clarity and conflicts between national and regional government (Taylor, 2009), by the dichotomy between protection and valorisation (Colavitti and Usai, 2006), by a lack of cultural heritage protection strategy that encompasses a holistic, long-term vision (Lambert, 2010), and by official half-heartedness and lack of appropriate funding and resources in meeting the aims of the constitution and the 2004 legislation (Settis, 2006).

This is the conservation context in which ghost towns are embedded in Italy. Exposed to several deterioration factors: geological, seismic, meteorological risk, and depopulation they are given minimum safeguard and rehabilitation by the regional authorities. In addition, the extent of physical structures remaining to be rehabilitated, the breadth of their geographical distribution and the absence of human presence, makes the process of delineating conservation goals highly uncertain (Schwartz, 1997).

It is generally accepted that the conservation of cultural heritage requires the involvement of multiple players across the public, private and nongovernment sectors, not only to initiate and carry out conservation but also to sustain the place (MacDonald, 2010). Based on the above considerations, this research will be investigating two potential scenarios of rehabilitation of abandoned towns relying on the initiative of multiple actors: a community-led approach to conservation embedded in ecovillage principles, and the *Albergo Diffuso* tourism approach acting as social, cultural and economic stimuli to depopulated villages.

Table 2: Italian Constitution Conservation Responsibilities

Source: Senato della Repubblica Article 117

	Responsibility
State	<ul style="list-style-type: none"> • Protection of the Environment, the Ecosystem and Cultural Heritage
Regional Authorities	<ul style="list-style-type: none"> • Governance and Management of Land and Territory • Valorisation of Cultural and Environmental Heritage • Promotion and Management of Cultural Heritage and Activities

4.2. Urban Sustainability Indicators

Several authors acknowledge that the multitude of sustainability indicator systems in use today is a direct reflection of the broad range definition and multiple interpretations of the sustainable development concept (Bossel, 1999). Bell and Morse (2008, p.XVII) question *“if in trying to measure sustainability, surely the civic, academic and developmental communities were engaging in a futile exercise of measuring the immeasurable”*.

Despite of the debate of the immeasurability of sustainability a range of approaches have been pursued to measure ‘urban sustainability’, notably the ecological footprint method (Rees, 1992; Rees & Wackernagel, 1996) described as a data-driven metric that tracks a city’s demand on natural capital, and compare this demand with the amount of natural capital actually available, providing information on the ‘resource metabolism’ of the city.

Other influential methods include *Urban Sustainability Reporting* developed by Maclaren (1996) and the *Raster Model* (Spiekermann & Wegener, 2003), which identifies thirty-five indicators derived from the state-of-the-art urban land use and transport model. Mega & Pedersen (1998) argue that indicators offer a powerful instrument in addressing change, therefore, are critical to those cities wishing not only to adapt to but to initiate the desired transformation towards sustainable systems.

Sustainability indicators should be ‘contextual’, in other words, they need to be relevant and include interpretations that help the interpreters to make sense of the data (Turcu, 2012). Therefore the framework developed by this research has taken in consideration existing experiences in which local to regional bottom-up change agents (communities or social entrepreneurs) have adopted sustainability as a core value, including ecovillages projects (O’Hara, 2013) and social entrepreneurship schemes (European Commission, 2014).

For instance, the framework integrated some Global Ecovillage Network parameters

for sustainability systemically organised as a mandala of what is perceived to be the four primary, intrinsic dimensions of human experience: ecological, social, economic, and worldview (Mare, 2005). The framework has also included a series of principles and strategies proposed by *Lessons from Vernacular Heritage to Sustainable Architecture* (2014), as ways to integrate those lessons into the design of a more eco-responsible built environment.

Other sets of principles considered included the *Biomimicry* approach to innovation (Benyus, 2006), Wann's *Concepts and Criteria of Deep Design* (Wann, 1996) and *Ahwahnee Principles for Resource-Efficient and Livable Communities* (1991) developed by the Local Government Commission and outlining a basic design strategy for the creation of healthy and sustainable communities.

Independently of the parameters to be measured in the development of sustainable urban indicators there rests a challenging choice between two 'methodological paradigms' (Turcu, 2012):

- Expert-led approaches, also called 'top-down' or government models that are based on formal hierarchies with highly technical data requiring expert interpretation and greater depth of analysis.
- Citizen-led approaches, also known as community-led, governance or 'bottom-up' models, which draw on a participatory philosophy and processes.

The proposed **Framework for Sustainable Urban Conservation of Abandoned Villages** combines both paradigms in a hybrid approach recognising that for an effective sustainable urban conservation practice both approaches should be observed. In addition, the research approaches the concept of conservation and sustainability from a transversal, holistic and multidisciplinary perspective, expanding the notion of best practices to best processes, understanding sustainability as a learning process (Wahl, 2012) and conservation as the dynamic management of change to ensure the extension of life of the heritage (Feilden, 1986). Thus, the methodology for the identification and analysis of the sustainable conservation interventions in abandoned towns was developed based on four main dimensions: conservation, ecologic, social and economic.

Table 3: Framework for Sustainable Urban Conservation of Abandoned Villages

Conservation	
Principles	Strategies
Conserve places of cultural significance	<ul style="list-style-type: none"> • Identifying and retaining the cultural and natural significance of a place • Respecting the existing fabric, use, associations and meanings • Allowing changes to a place only to retain cultural significance and appropriate interpretation • Defining a compatible use to the place
Develop a planned process of conservation, interpretation and management	<ul style="list-style-type: none"> • Understanding cultural significance first • Developing policies for managing a place based on its cultural significance • Managing the place providing the participation of people for whom the place has significant associations and meanings • Retaining its historic layering
Create policies that provide inclusive mechanisms for balancing conservation and sustainability	<ul style="list-style-type: none"> • Defining differentiated responsibilities between national, regional and local authorities • Incorporating participatory approaches to define local strategies, and resource mobilisation schemes • Promoting public-private partnership for successful application of the historic urban landscape approach • Coordinating both the institutional and sectorial viewpoints
Build capacity, encourage research, and disseminate information	<ul style="list-style-type: none"> • Prioritising traditional techniques and materials for the conservation of significant fabric • Engaging main stakeholders to foster understanding of the historic urban landscape approach • Inviting research to target the complex layering of urban settlements • Encouraging the use of IT and communication to document, understand and present the complex layering of urban areas
Ecological Dimension	
Principles	Strategies
Enhance the environmental context and landscape	<ul style="list-style-type: none"> • Minimising the impact of interventions • Optimising land use patterns and spatial organisation • Promoting biodiversity regeneration and ecological integrity • Understanding and working with the site's topography, geomorphology, hydrology and natural features
Harness natural and climatic resources creating productive cycles in the system	<ul style="list-style-type: none"> • Gathering and using energy efficiently • Considering the hydrography of the place and managing the water resources • Incorporating solar energy into the conservation measures • Taking advantage of prevailing winds in the restoration processes
Minimise generation of waste and emission of pollutants	<ul style="list-style-type: none"> • Using materials sparingly • Minimising construction/restoration waste by utilising locally available materials • Optimizing full life-cycle of products and processes and implementing waste recycles measures • Planning maintenance and extending durability of buildings
Promote the quality of the built environment for human health and welfare	<ul style="list-style-type: none"> • Avoiding toxic materials • Ensuring adequate natural ventilation • Guaranteeing adequate natural lighting and sun radiation • Improving natural and passive heating

Table 4: Framework for Sustainable Urban Conservation of Abandoned Villages

Social Dimension	
Principles	Strategies
Encourage social cohesion in a changing environment	<ul style="list-style-type: none"> • Promoting inter-generational relations • Enhancing community engagement and participation • Encouraging places for community meetings • Strengthening community character and sense of place
Recognise cultural landscape and its intangible values	<ul style="list-style-type: none"> • Reinforcing local social rituals and symbolical expressions • Documentation and mapping of cultural landscape • Transmitting cultural values and history • Respecting local communities traditions, dynamics and perceptions
Develop innovative vision and creative solutions	<ul style="list-style-type: none"> • Honouring collective memory and developing collective intelligence • Involving all ages including younger generations in design processes • Strengthening community self-reliance by increasing peoples options • Empowering all generations with a common vision of a positive future
Promote shift towards inclusive governance	<ul style="list-style-type: none"> • Utilising civic engagement tools to engage a diverse cross-section of stakeholders • Facilitating intercultural dialogue • Enabling participation of local communities in decision-making processes • Applying methods of creative conflict solving between groups with conflicting interests
Economic Dimension	
Principles	Strategies
Support local innovative income-generating development rooted in tradition	<ul style="list-style-type: none"> • Employing micro-credit and other flexible financing to support local enterprise • Developing small-scale industries and businesses • Developing slow-tourism practices that contribute to well-being of communities and conservation of heritage • Promoting indigenous workmanship and handicraft products made with local materials
Promote sustainable planning, design and building practices	<ul style="list-style-type: none"> • Optimising the use of materials • Enhancing technical simplicity in building & conservation processes • Using local and accessible materials and resources • Encouraging the use of low-transformed materials
Develop local and bioregional food systems	<ul style="list-style-type: none"> • Promoting farm-to-table schemes for a wider portion of the community • Reinforcing bioregional food systems and links • Reducing transportation efforts • Encouraging local production and trades
Minimise use of resources	<ul style="list-style-type: none"> • Conserving strong and durable structures • Assuring supply of renewable energy • Developing construction systems adequate to local conditions • Planning maintenance of the historic urban landscape • Establishing robust recycling / upcycling systems

5. Scenarios of Revitalisation

5.1 Ecovillages: Community-led Approaches

Numerous EU strategy documents highlight the need for far-reaching social innovation if Europe is to ensure employment and prosperity within planetary constraints. The EU Sustainable Development Strategy (EU-SDS, 2009) calls for cost-effective, integrated and interdisciplinary policies to ensure that future economic development is coherently rooted in social cohesion policies and environmental protection. The Europe 2020 Strategy for smart, inclusive economic growth also emphasises the crucial, overarching role of social, environmental and cultural dimensions of sustainability.

ICOMOS Italy (2014) advocates community-driven conservation and local empowerment. It states that engaging and empowering communities to identify local values and participate fully in the conservation of their historic centers and heritage resources is a widely shared goal. How can it be achieved most effectively?

Recent research conducted in 13 EU countries by the European Association for Information on Local Development (AEIDL, 2013) found there were in excess of 2,000 local, community-led initiatives that were directly engaged in practical activities to promote sustainable, resource-efficient, low carbon and climate-resilient initiatives. Many of the communities involved were found to be testing new ideas, technologies and approaches in order to find the most sustainable and cost effective solutions (O'Hara, 2013). In this way, they acted as important local laboratories, piloting and demonstrating how citizens and communities can live more sustainably.

Despite the EU's advances towards sustainable societies - whether in the social sphere through social security schemes, in the ecological sense through greater resource efficiency, or in economic terms with increasing support for social enterprises - most social movements consider the EU to be a remote and abstract concept. There is certainly a divide between the two constituencies, living in mutual ignorance - grass roots social movements for sustainability on one side and the Brussels-based decision makers on the other hand (De Schutter, 2014).

Metcalf (2012) states that several thousand so called 'intentional communities'- which include ecovillages, cohousing and income sharing communities- thrive around the globe, and the number is rapidly increasing. He adds *"a strong environmental ethic is held by most members of most intentional communities, and that is why some are called ecovillages"* (p.28). He adds that although Intentional communities are not 'utopias', they are on a utopian quest to achieve if not a perfect society, then at least a more sustainable world in which to live.

The AEIDL survey (2013) identified permaculture, ecovillages and transition towns as key

Ecovillages often serve as research and demonstration sites (Dawson, 2006) aiming to address the quest for sustainability by increasing ecological literacy, developing processes that significantly reduce ecological footprints, and re-designing methods of production and patterns of consumption.

In Europe today there are 16 ecovillages national networks spread in 26 countries (Hall, 2015). With the mission of promoting the development of sustainable settlements that strengthen the capacity of individual ecovillages as well as the national ecovillage networks, GEN Europe disseminates the information on the ecovillage experience to wider society, to professionals, government, the private sector, and other NGOs (GEN Europe, 2014).

Trainer (2000) believes the ecovillage movement is a remarkably theory-less and a-political movement. Fotopoulos (2000) adds that the Northern oriented geographical distribution of the movement reflects its class structure, the concerns of most people taking part in it and the limitations of life-style strategies. Mare (2005) shares concerns on the prevailing public image of the 'ecovillage' as an entropic re-iteration of the 'back to the land movement' or utopian rural outposts where people go to avoid society with an unfortunate tendency toward moral elitism. Garden (2003) considers the ecovillage 'movement' divorced from reality.

Dawson (2014) counteracts by stating that in the last twenty years ecovillages, local communities, which aim to minimise their ecological impact but maximise human wellbeing and happiness, have been springing up all over the world. For him they incorporate a wealth of radical ideas and approaches which can be traced back to Schumacher, Gandhi, the 1960s, and the alternative education movement.

5.1.2 Torri Superiore Ecovillage Case

The origin of the medieval settlement at Torri Superiore is uncertain, though it may date



Figure 9: Built completely in local stone and lime over 700 years, Torri Superiore presents a unique urban layout with several five-story buildings. Source: Author.

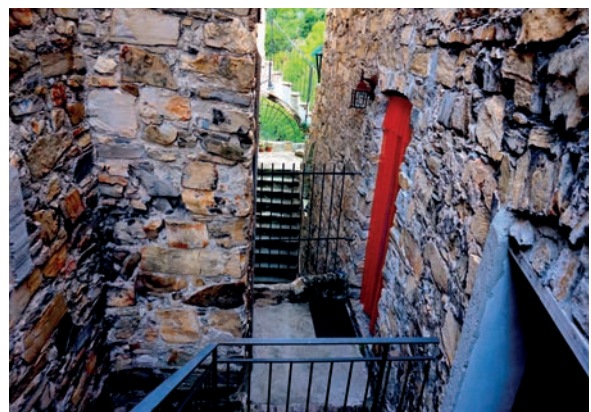


Figure 10: The complexity of the building and the absence of any detailed map forced the residents to spend the first three years in observation, study and map-drawing. Source: Author.



Figure 11: Torri Superiore is an educational centre hosting courses in organic food production, village design, renewable energy and ethical cosmetics. Source: Torri Superiori.

from the late 13th century, a time of great social and religious unrest in the region. This would explain the village's compact architecture remarkable for its width and height, which would have offered good protection to its residents (Candella, 2015).

The village is situated at the foothills of the Ligurian Alps, a few kilometers from both the Mediterranean Sea and the French/Italian border, close to the coastal town of Ventimiglia. Built completely in local stone and lime over the course of many centuries, Torri Superiore presents a unique urban layout with several five-story buildings, 160 rooms spread in an exceptionally intricate nature (Bates et al, 2005).

Narrow passageways, stairways, terraces and alleys create a complex labyrinth, a web of rooms and corridors interwoven and spread with surprising connections. The total length of the village is 50 metres along the north-south axis, and 30 metres along the east-west axis. The total covered area is close to 3,000 square metres.

Cochram (2010, cited in Giani, 2011) defines the settlements a 'spatial labyrinth':

"The anatomy of the village today reveals an architecture structured originally for defense, with heavy stone walls, small openings, and a unified clustered layout. A maze of small tunnel-like alleys penetrate the mass at the lower level - a defensive design that is easily blockaded and disorienting to anyone unfamiliar with the place."

The buildings at Torri Superiore were added to over the centuries, with the last parts of the hamlet probably being built around the end of the 18th century. It was at this point that population levels peaked before the village gradually become abandoned as people began to leave Liguria due to lack of employment.

In the late 80's a group of academics, professionals and enthusiasts initiated the process of negotiating the purchase of the abandoned village, and setting up a cultural association and sustainable community. Early into the project the decision was made to renew the building following ecological principles and materials wherever possible while respecting the original character of the settlement (Borio, 2004).

Torri Superiore was retrofitted over a period of 25 years in a comprehensive process of collective self-build utilising natural materials and appropriate technologies, compatibly with the limitations imposed by the local building codes and by the historical structure of the village (Candella, 2015).

This research is set to investigate whether the lessons learnt from Torri Superiore ecovillage revitalisation could be applied to support the regeneration of other abandoned villages in Southern Italy.



Figure 12: A typical renovated room at Torri Superiore ecovillage. Source: Torri Superiore.

5.2 Albergo Diffuso: Tourism-led Approaches

“To penetrate into Italy is like a most fascinating act of self-discovery - back, back down the old ways of time. Strange and wonderful chords awake in us, and vibrate again after many hundreds of years of complete forgetfulness.” (D.H. Lawrence)

Tourism has become a global economic sector with a wide and significant impact on the socio-economic and ecological development of regions and nations (Girard, 2009). This global trend is apparent in Italy, where the tourism industry has become one of the main strategies for the recovery of abandoned settlements in the Southern region (Russo, 2014), with a direct impact on the identity and occupation of historic urban landscapes.

In the early 1980s, the hospitality concept of *Albergo Diffuso* (AD) was introduced to revive historic Italian villages and town centres by revitalising various historic buildings, thus attracting tourism to uncommon destinations.

Translated as ‘scattered hotel’, AD offers guests the experience of living in historic sites in rooms scattered throughout different buildings within a village, overseen by a central management structure and hosted by a small community. Unlike a normal hotel, whose facilities are found in a single building, this model of hospitality consists of several units linked to each other within a range of not more than 200 meters.

Table 5: Comparing and Contrasting Hospitality Models

Source: Associazione Nazionale Alberghi Diffusi.

Albergo Diffuso	Hotel
Feeling at Home	Feeling in a Hotel
Courtesy and Kindness	Provision of Professional Services
Authenticity	Efficiency
Non-standardised Rooms	Variety of Tariffs According to Rooms
Attention to Details	Comfort
Link with Territory	Wide Range of Services
Contacts with Local Residents	Contact with Other Guests
Informal Environment	Privacy

The concept was developed by the Italian scholar Giancarlo Dall’Ara, who defined AD as both an original model of hospitality and an approach toward sustainability (2003). Scattered hotels, argues Dall’Ara, are healthy for the host villages, because they act as social, cultural and economic stimuli. He calls them ‘drivers of development’ because everything is sourced in the region, involving the residents and local producers, thus preventing depopulation.

According to Bulgarelli (2007), this unique model of tourism development for historic sites does not produce negative environmental impacts, since it grows with the demand, as rooms are 'regenerated' and added to the existing network as necessary. Russo (2014), on the other hand, argues that the principle of capitalising on ruins' authenticity by transmuting ancient inhabited sites into 'slow' tourism places, mostly through foreign private investors, is questionable. This threat is evidenced in the Business Plan developed for a potential AD in Manduria, Puglia, for example, which identifies the potential adverse effects of invasive interventions in the historic fabric as one of the concerns to be addressed in the development of the 'enterprise' (Manduria Govt., 2004).

To date, there are over 50 Italian *Alberghi Diffusi* grouped under a National Association while 13 Italian regions have adopted legislation regulating the concept. To establish an AD, a territorial analysis followed by a business plan should be developed (Alla Gatta, 2015). A SWOT analysis, evaluating the Strengths, Weaknesses, Opportunities and Threats of two AD business plans, demonstrates the absence or frequent change in regulations, bureaucracy, and long lead times to go through the process of authorisation, at both local and regional levels, as the main obstacles for establishing an AD (Trajano, 2014; Manduria Govt., 2004).

The *Albergo Diffuso* model has been used in villages in the process of depopulation with good results, though it seems less effective in completely abandoned villages (Di Figlio, 2015). This is the case in the medieval village of Santo Stefano in Abruzzo, which until recently was largely abandoned, down to a population of only 70 residents, with many of its ancient buildings in ruins.



Figure 13: Albergo Diffuso promises an 'authentic' experience of a comfortable past. Source: ADI.



Figure 14: AD Sextantio restoration pursued a minimum loss of authenticity and fabric and honest intervention. Source: Zingarate.



Figure 15: Borgo di Castelvete architectural heritage restoration was part of a EU funded project over 6 years. Source: Author.

Today many of the village's buildings have been restored under the AD Sextantio.

With many structures in the village dating from the 11th through 15th centuries, Santo Stefano has become a fashionable weekend and summer retreat, recognised for its Slow Food and sustainable agriculture practices. Today the village's main source of income is tourism, with small boutiques, art galleries and cafes tucked into ancient stone structures.

In accordance to the criteria, AD Sextantio has its bedrooms, restaurants, and other public areas scattered throughout the village. Local materials were used for its regeneration, whilst old furniture and artifacts were sourced in the region (Kihlgren, 2010). Modern technology, such as under-floor heating and light switches, is discreetly hidden in the buildings. The project conducted a research with the National Museum of Abruzzo by consulting the elderly residents of Santo Stefano to learn how people used to live and what materials they used in their constructions.

5.2.2 Albergo Diffuso Borgo de Castelvete Case

In 1996, Castelvete sul Calore, a small rural municipality of Irpinia hit by an earthquake in 1980, embarked in the project *The Villages of Tradition - Recovery and Rehabilitation of Four Medieval Villages*. The project was part of a more complex strategy aimed at enhancing tourism in the whole mountain community of Irpinia, through a network of accommodation in traditional villages demonstrating valuable architectural and environmental profiles (Cresta, 2011). Using the public-private partnership formula, the project 'acquired' abandoned buildings, which became public property, subsequently turning them in tourist accommodation, craft shops, museum and education spaces (Russo, 2014).

The AD was adopted as the strategy for rehabilitation of the historic centre and since 2004 the Albergo Diffuso Borgo di Castelvete (ADBC) has been promoting a regional approach

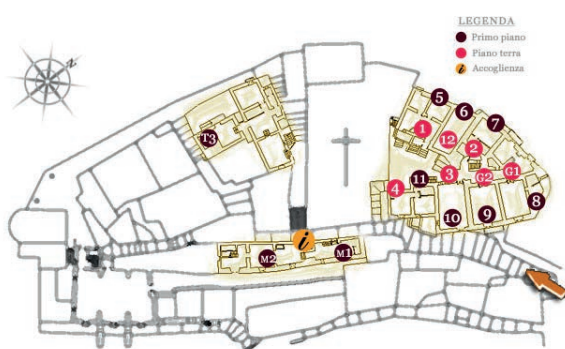


Figure 16: Borgo di Castelvete Albergo Diffuso rooms scattered throughout different buildings within 200 meters of the historic centre.
Source: ADBC.

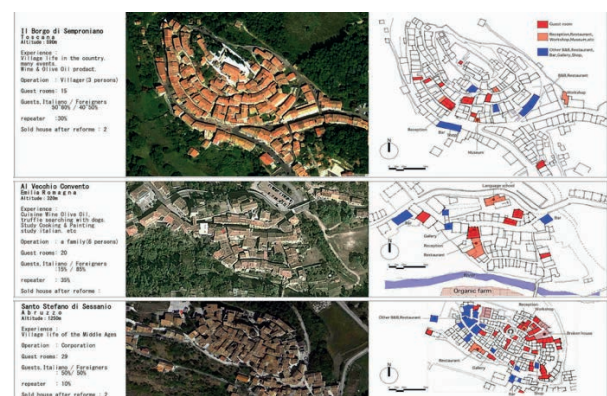


Figure 17: Comparative Analysis of three *Albergo Diffusi* by Prof Yasushi Watanabe. Source ADI.

to socio-economic regeneration. Its territory-linked catering services are connected with the food and drink producers who have increased their turnover due to the induced increase of demand (Bulgarelli, 2007). In a close partnership with the local municipality and community, this AD is 'de-seasonalising' the local economy (Bulgarelli, 2007) through the promotion of cultural activities spread throughout the year.

As for the applicability of the AD strategy in the ghost towns context, their state of complete social abandonment does not offer the possibility for initiating a regeneration process via the scattered hospitality model. The main challenge of introducing the AD as an approach for the revitalisation of abandoned villages is the need of reconciling the entrepreneurial project with the development strategies of the local territory while engaging the support of the neighboring communities of the deserted village (Di Figlio, 2015).

A creative way to address this challenge is by designing a multi-staged regeneration strategy as exemplified by the ghost town Apice Vecchia. Starting with the regeneration of its medieval Castle, it has now invited proposals for small businesses and B&Bs to return to the area, with a view of establishing an economic base (Alla Gatta, 2015) and gradually attracting new residents who, in turn, could provide a platform for the establishment of an *Albergo Diffuso*.

Only time will tell if this designed strategy will bring back life to the ghost town, weaving back the abandoned site with the region via an EU supported regeneration project, at this stage, deprived of communities participation. On the other hand, it may prove that a blended model of urban conservation practice utilising the AD as one of the elements, not as the driver strategy, may well balance the economic and the conservation requirements of the historic site. However, this approach raises still unanswered questions concerning the impact of such a strategy on the identity and occupation of the historic landscape.



Figure 18: Apice Vecchia was damaged by two earthquakes in 1962 and 1980 forcing the population to abandon the settlement. Source: Salvo Cristaudo.



Figure 19: Apice Vecchia Castle restoration as the first stage of a strategy for repopulating the abandoned village. Source: Author.

6. Comparing and Contrasting Sustainable Urban Conservation Principles and Strategies

6.1. Conservation

Principle 1: Conserve places of cultural significance

Change and continuity, although they seem contradictory at the very first look, are strongly interrelated factors that should be considered together when conserving places of cultural significance (Topçu, 2002). This research has selected the ecovillage Torri Superiore (TS) and Albergo Diffuso Borgo di Castelvete (ADBC) as two approaches aiming to conserve places of cultural significance. A key strategy under this principle is allowing changes to take place only to retain the significance and appropriate interpretation of the historic site.

TS retained the significance by giving continuity to the former residential use and by adding compatible uses without compromising the interpretation of the settlement. The additions which included a communal restaurant, a seminar room and guest spaces did not compromise the architectural authenticity.

A comprehensive restoration of the historic centre of Castelvete was undertaken from 1996 to 2002. While the original significance of the place was retained in the historic centre, at the edges of the territory the original character was in some instances lost through unsolicited 'modernisation' interventions and alteration of building materials and techniques.



Figure 20: Torri Superiore giving continuity to the former residential use without compromising the interpretation of the settlement.
Source: Author



Figure 21: Architectural Interventions and their effects on the character of the historic fabric
Source: Author.

Principle 2: Develop a planned process of conservation, interpretation and management

The historic urban landscape approach suggests that an efficient conservation process begins with understanding the evolution of the historic landscape, followed by the development of appropriate policies and the definition of compatible management procedures. Value judgments are made in all stages of the conservation plan.

Evidence has shown that TS has taken social values in consideration in their critical decisions while ADBC has emphasised the historic and symbolic values in the process of rehabilitation of the historical landscape. For instance, TS has adopted a community-led style of management following a more 'intuitive' planning process of conservation, which evolved through stages without a deliberately planned itinerary.

Following the earthquake of 1980, the historic centre of Castelvetro became vulnerable to an irreversible change. At that stage the local community and regional authorities recognised their heritage assets were an irreplaceable resource and developed a plan to conserve them in a manner appropriate to their significance. The plan pursued a minimum loss of authenticity, minimum loss of fabric and honesty of intervention.

Principle 3: Create policies that provide inclusive mechanisms for balancing conservation and sustainability in the short and long terms

The conservation of historic landscapes in Italy is managed by regional authorities. While adequate legislation and regulations for the protection of historic urban areas have been developed, public resources available for cultural investments are scarce and dwindling (ICOMOS, 2009). Furthermore, Settis (2005) argues that the symbiosis of public and private efforts towards effective conservation has not been understood by successive Italian governments.

Despite of the weak 'symbiosis' the ADBC rehabilitation was managed through a public-private partnership, which has invested a total of €1.216.167,00 in the region (Verderosa, 2004), seeking to balance conservation and sustainability in the short and long terms.

In the ongoing dialogue between regional policy and sustainability practice, despite the fact that in some occasions new sustainable solutions were not allowed to be implemented in the settlement due to legal compliance, TS indicated that their experience have deepened and expanded the notions of heritage and conservation in the Liguria region.

Principle 4: Build capacity, encourage research, and disseminate information for the implementation of the historic urban landscape approach

Today there is an increasing demand from users for a plural and interactive reading of heritage and the cultures it reflects (Jokilehto, 2007). Evidence shows that both TS and ADVD have in different ways engaged in the process of building local capacity and disseminating information on the lessons learned. In both cases, local communities became increasingly sensitive to the cause of heritage protection. A possible area for improvement is related to expanding communication to youth and under-represented groups to encourage their participation.

TS has accumulated knowledge through a process of trial and error, experimentation and learning. Based on the lessons learned TS has developed an educational stream of activities on ecovillage design, ecological retrofitting, social enterprise, consensus decision-making and bioregionalism.

ADBC has involved the local community in the process of rehabilitation and is engaged in building the capacity of the residents in the art of AD hosting through cultural events, conferences and debates.

In synthesis, the conservation approaches adopted by the two initiatives have taken into account the cultural, ecological, economic and social interests of the territories concerned. In this process, local communities were mobilised to generate a new identity to the abandoned settlements rooted in the past but now revived with new vigour.

Table 6: Conservation Principles		
	TS	ADBC
Conserve places of cultural significance	✓	✓
Develop a planned process of conservation, interpretation and management	±	✓
Create policies that provide inclusive mechanisms for balancing conservation and sustainability in the short and long terms	±	±
Build capacity, encourage research, and disseminate information	✓	±

6.2 Ecologic Dimension

Principle 1: Enhance the environmental context and landscape

Both projects demonstrate a clear intention to enhance the historic environmental context in which they are placed. The renewal of Torri Superiore (TS), followed ecological principles wherever possible while respecting the original character of the medieval village. For instance, local stone was utilised on external and internal walls, which was considered an unlikely innovation in the region, *“since the local perception associated stone houses with a past of harshness and misery, something to be ashamed of, which must be hidden at all costs”* (Borio, 2015).

As for the Albergo Diffuso Borgo Castelvete (ADBC) the restoration of the medieval village included structural non-invasive techniques to improve the seismic response of the buildings and the use of ecologically compatible material (Ciamara, 2010). For example, most of the wood utilised originated from the local chestnut forests.

TS is surrounded by an ancient agricultural environment that residents have sought to manage. It comprises hundreds of old, overgrown olive trees on the countless narrow, steep, fragile stone terraces reaching almost to the top of the mountains. In an effort to promote biodiversity regeneration and ecological integrity, new trees adaptable to the dry climate were planted including nitrogen fixers such as like alder, black locust and albizia.

ADBC takes great pride in its bioregion boasting high biodiversity ratings in Europe. Irpinia's forests are characterised by oaks, flowering ash, blackthorn, bucktorn and chestnut trees, widely used for timber and fruit (Avelino Govt.,2015).



Figure 22: Rural landscapes in Liguria are a result of a continuous interaction in time and space between agriculture, forestry and natural environment. Source: Author.



Figure 23: Irpinia is characterised by the presence of two natural parks and a rich variety of wildlife, 70 bird species, foxes, stone martens, hedgehogs, weasels, moles and wild boars. Source: Manada.

Principle 2: Harness natural and climatic resources creating productive cycles in the system

In terms of incorporating renewable energies into the conservation measures, ADBC has adopted a biomass wood-pellet system for commercial use with an automatic built-in hopper-fed fuel system. Originally imported from Scandinavia, the pellets have most recently been sourced regionally. TS adopted some low-tech solar panels for hot water production, coupled with a central heating system that runs on a combination of solar energy and fire-wood, with a small back-up gas heater.

In both cases, wind power was not considered as a viable option, given the scarcity of persistent winds and the impact of local natural conservation regulations. TS has researched and discarded photovoltaic (PV) panels, given the limited roof-surface available compared to the total volume of the village. ADBC could not even consider PV panels due to the Cultural and Landscape Code 2004.

Principle 3: Minimise generation of waste and emission of pollutants

The restoration process that took place between 1996-2002 in ADBC utilised stone, largely from the same buildings, which had been hit by the earthquake of 1980. The use and reuse of local materials such as stone and roof tiles helped to contain the cycle of consumption and minimised construction waste. Plasters were made of lime and sand with the addition of earthenware and earth colours.

TS utilised natural lime plaster and washes. Borio (2015) states: *“banning cement plaster, styro-foam panels, aluminum windows and synthetic paints made us look like foolish eco-idealists, but it paid off in the end”*.



Figure 24: TS central heating system has an energy-saving device heating the rooms through low-temperature panels, placed on the walls and under the terracotta floors. Source: Author.



Figure 25: Heating pipes before being plastered over to create a low level heating panel in the wall. Source: Torri Superiore.

Principle 4: Promote the quality of the built environment for human health and wellbeing

Old stone and lime walls are, by their nature, full of moisture, which needs to move freely according to indoor and outdoor temperatures (Borio, 2006). Day to day human activity and expelled breath creates moisture in the atmosphere. However, lime plaster can breathe well, allowing this movement, so that walls and ceilings remain dry.

Both sites incorporated stone and lime walls. TS adopted non-tropical wood for windows and door, insulating cork and locally made terracotta floors. ADBC has been monitoring the indoor temperature over Summer and Winter and in both seasons recording a comfortable average 20 degrees, largely due to the double stone walls.



Figure 26: Natural lime plaster and washes, insulating cork and wood panels, were introduced as non-negotiable options in TS ecological restoration. Source: Author.



Figure 27: ADBC utilised structural non-invasive techniques to improve the seismic response of the buildings with local chestnut wood from local forests. Source: Author.

Table 7: Ecological Principles

	TS	ADBC
Enhance the environmental context and landscape	✓	±
Harness natural and climatic resources creating productive cycles in the system	✓	±
Minimise generation of waste and emission of pollutants	±	✓
Promote the quality of the built environment for human health and welfare	✓	±

6.3 Social Dimension

Principle 1: Encourage social cohesion in a changing environment

Both projects indicate that their conservation practices have strengthened social cohesion and the sense of place of their communities. To this end a key strategy is the promotion of intergenerational relations. It is clear that more work needs to be done to encourage the young generation back to Castelvetero, which has a predominantly elderly population. However this is not a localised problem, as there is an ongoing national effort to reduce economic migration of the rural youth by fostering rural diversification and youth employment and entrepreneurship opportunities.

Torri boasts a high level of social participation and inclusion, well structured under its cooperative and association frameworks, ensuring sharing of power and responsibility and modeling deep democracy practices, which members also teach to interested groups and individuals.

Principle 2: Recognise cultural landscape and its intangible values

Castelvetero is known for its festivals and religious processions whose origins date many centuries back. The *Festival Pane Miracoloso* (Miraculous Bread) dedicated to *Madonna delle Grazie* (Our Lady of Graces) is one of the most celebrated. Once a year, the braided bread is toasted by the women and offered to the Madonna. Once blessed, the miraculous loaves are distributed throughout the village in a procession led by two eight-year-old girls wearing dresses covered in gold jewelry in honour of the Virgin Mary. To the many believers the Miraculous Bread then works its miracles throughout the year.



Figure 28: The *Festival Pane Miracoloso* as a living expression of intangible cultural heritage.
Source: Fiore Barbato.



Figure 29: The tradition thrives held by the community and passed on from generation to generation. Source: Fiore Barbato.

The new residents of TS initially had encountered some resistance from the original residents of the Valley. Over time, this resistance has been transformed through small acts of neighbourly relations, which have paved the way for a more cohesive social landscape. One such act that has reinforced social linkages was the engagement of Torri in the fundraising campaign to buy the organ of the nearby church, today led by a non-resident catholic Bangladesh priest (due to lack of Italian priests).

Principle 3: Develop innovative vision and creative solutions to safeguard tangible and intangible heritage

TS and ADBC have been driven by innovative approaches addressing contemporary urban regeneration constraints. Involving all ages in the design of a positive vision of the future where the tangible and intangible heritage are safeguarded is key for the social sustainability of the conservation interventions.

In neither case has this research found evidence of wide multi-stakeholder participation in devising a positive vision for the future that embraces all generations. In both cases, this vision was articulated by a smaller group on behalf of the larger community. This raises concerns regarding the intergenerational continuity of the projects.

Principle 4: Promote shift towards inclusive governance

TS has put together effective conflict resolution mechanisms to ensure that all perspectives are heard once conflict emerges so that recourse to the legal system is the last resort. TS also uses the circular consensus method of decision-making, in which every single



Figure 29: TS restaurant as a social place of encounter for the cohesion of the Valley community. Source: Author.



Figure 30: Inclusive governance includes the role of women in the restoration and maintenance of local identity. Source: Author.

person in the community has the opportunity to express and defend their own positions.

In terms of social design, it becomes clear that both projects can benefit from more diversity. Torri residents have a well-developed understanding of environmental issues and have adopted contemporary tools for inclusive governance. However the focus on the middle class dominates the social mix. Torri is yet to attract elderly and ethnic minority residents.

One area still to be researched within ADBC is the role of women in critical decisions related to the management and interpretation of the historic landscape. Women in rural regions of Italy are no longer merely a demographic entity in census data (Cavalli, 1983), they are becoming social actors, and a social force for change in their own right. In this context, women's leadership role is key in supporting the restoration of local identity, in protecting the integrity of the urban landscape, and delineating the limits of acceptable change in a historical context.

Table 8: Social Principles		
	TS	ADBC
Encourage social cohesion in a changing environment	✓	✓
Recognise cultural landscape and its intangible values	±	✓
Develop innovative vision and creative solutions to safeguard tangible and intangible heritage	±	±
Promote shift towards inclusive governance	✓	±

6.4 Economic Dimension

Principle 1: Support local innovative income-generating development rooted in tradition

How to generate employment in sectors and production systems that do not degrade the environment, as occurred in the 19th and 20th centuries is a key challenge of current times (Dugarova and Utting, 2013).

Both initiatives have been involved with green building, which refers to both processes and materials that are environmentally responsible and resource efficient (EPA, 2015). The architectonic rehabilitation of Castelvete historic centre has strengthened the community identity, generated new jobs and promoted traditional workmanship.

According to Della Gatta (2015) the ADBC investment payback period is estimated between 3 / 4 years, however there has been a much quicker and stronger social return. One area of concern is the weak retention of the young generation who rarely returns to the village once they leave for furthering studies. This is due to lack of attractive jobs and up-skilling opportunities in the region.

Slow-tourism practices that contribute to well-being of communities and conservation of heritage have been adopted by TS guesthouse which offers 13 beds, a workshop room to host educational and cultural activities and the only restaurant in the region serving locally sourced food to up to 70 people. Along similar lines, ADBC tourism 'complex' offers 17 rooms, a shop with typical products and local crafts, a conference room and various exhibition spaces.

TS utilises social entrepreneurship approaches to manage its cooperative and cultural association. The Associazione Culturale Torri Superiore was founded in 1989 with the task of promoting the purchase and the rehabilitation of the settlement and initiating a range of economical activities including a welcome structure for tourists. The Societa Cooperativa Ture Nirvana was established in 1999 with the mandate of running commercially the restaurant and the guesthouse (Giani, 2015).

Principle 2: Promote sustainable planning, design and building practices

TS plans were developed by a local group of architects, engineers and 'brick layers' over a period of 7 years. The group spent the Summer cleaning the site from debris blocking corridors and filling the rooms (Bates et al, 2005) and the Winter developing and designing the plans. The oldest resident 'Nando' was instrumental in revealing hidden passages, local builders lent empirical knowledge in the evaluation of safety of structures.

The project of restoration of Castelvetero developed by the local architect Angelo Verderosa has optimised the use of local materials by using wood from chestnut forests grown at altitudes between 400 and 1,000 metres, stones and roof tiles recuperated from the 1980 earthquake. The reconstruction employed traditional knowledge of local builders, which has enhanced technical simplicity in building and conservation processes.

TS residents were determined to keep the character of the building and furnishings by using only marlstone from local quarry, natural lime mortars, which they purchase pallets at a reasonable price from a firm in central Italy, cork insulation and wood from native species like the old olive trees on the hill sides. Walls were plastered and painted with lime-wash, to which they added some milk or egg white to prevent the lime from pulverising at the touch.

Principle 3: Develop local and bioregional food systems

Despite the complexity of developing horticulture activities in the ancient terraces, Torri residents have been determined to grow their own vegetables. To date there are 6 vegetable gardens in different locations and they differ for type of production, irrigation, application of compost/manure, years of production, and type of soil (Gianni, 2011). Two of them, close to the main building have been cultivated for the past 8 years using permaculture approaches, showing better soil structure and higher fertility.

TS is involved with food processing - fruit jam, olive oil, olives in brine, olive paté - sold directly to tourists or during the monthly food market taking place in front of the village.

ADBC has reinforced the bioregional links with the wine and food producers focusing in the natural capital of the region and transforming their sense of place into a key component of



Figure 31: Monthly food market at TS front square strengthening the local economy and the sense of community. Source: Torri Superiore



Figure 32: ADBC region has a proud tradition of producing classified wines key produce of the bioregional economy. Source: ADBC.

their branded products. The region 'boasts' three DOCG- Denominazione di Origine Controllata e Garantita- wines, which have gained worldwide recognition while supporting the local economy. The province is divided into two large areas with the first comprising the hills along the River Calore, where the Aglianico grape is grown producing the red wine Taurasi. The second area includes the hills surrounding the River Sabato, producing white grapes made into Fiano di Avellino and Greco di Tufo.

Principle 4: Minimise use of resources

At the beginning of the nineties, TS partnered with the volunteer association Legambiente to organise camps to help in the rehabilitation of the building. The job of the volunteers consisted in removing materials and waste from the building, restructuring dry walls on the terraces and cleaning paths in the olive groves.

ADBC materials and methods of construction adopted by the reconstruction were specific to the region, exhibiting a continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

TS utilised olive timber with its intricate grain and dense fiber in the flats restoration and in their furniture, such as benches and tables. Wood was cut into planks to reinforce passageways and window openings.

To summarise, this research has encountered encouraging evidence in both initiatives of a gradual shift in the economic systems towards business that enhance local and regional economy; do not generate pollution; and do not exploit human and/or natural resources.

Table 9: Economic Principles		
	TS	ADBC
Support local innovative income-generating development rooted in tradition	±	√
Promote sustainable planning, design and building practices	√	√
Develop local and bioregional food systems	√	√
Minimise use of resources	±	±

7. Wider Implications of the Research

“While every refugee’s story is different and their anguish personal, they all share a common thread of uncommon courage: the courage not only to survive, but to persevere and rebuild their shattered lives.” (Guterres, 2005)

Each year thousands of men, women and children attempt a dangerous journey across the Mediterranean Sea to Europe. Many of them are trying to escape poverty, climate impact and war in their home countries (Human Rights Watch, 2015). But the journey is very dangerous, and hundreds of people have died trying to reach Europe. The refugees heading for port cities are anxious to build their new lives.

Some 100,000 illegal migrants have entered Europe via Southern Italy since January 2015 (Cara di Mineo, 2015). Since early this year, hardly a week passes without another landing, or another rescue at sea. So far EU and national policies and approaches for the management of the illegal immigration/ asylum seekers have failed to deal with the problem (Debating Europe, 2015).

Sicily, at the exact center of the Mediterranean, has always been a crossroads of cultures and agriculture. In recent years there has been a revival of traditional and organic methods of agriculture with farmers collecting and saving over 40 old varieties of wheat seeds and legumes, and re-introducing animals in the farms (Guarnaccia, 2015). In parallel, there are circa 80 abandoned agricultural villages on the Island, which could be seen as potential learning environments, for an ‘active’ welcoming and inclusion of the incoming groups of illegal immigrants.

The legal instrument of the Regional law n. 18/2009 for the welcome and integration of political refugees is particularly significant for the topic concerned. This law aims to protect the right of asylum by funding requalification interventions in urban areas subject to depopulation and economic suffering (Russo, 2014).

Riace was turning into a ghost town before 200 Kurds fleeing the Turkish-Kurdish conflict landed on a beach near the small village in Calabria. The village was in danger of becoming extinct as people disappeared to Northern Italy for jobs. Today portions of the abandoned town have been recovered, a quarter of the population is comprised of immigrants who have been given accommodation in the village’s abandoned houses, as well as training to get them starting a new life.

A debate between stakeholders from ecovillage, *Albergo Diffuso*, ICOMOS Italy and academics of the University of Catania has been generated as an indirect outcome of this research. A main line of enquiry has been pursued: how to link policy, advocacy

and practical solutions while building the capacity of immigrants/asylum seekers over a period of time to strengthen social linkages, address increasing abandonment of villages, break the cycle of food insecurity and improve their status towards the realisation of sustainable communities.



Figure 33: Migrant in Riace has been given a renewed opportunity to rebuild his life
Source: Francesco Sorgiovanni for The Observer via The Guardian.

8. Conclusion

“To change a major paradigm is to change our definition of what is possible.” (Woodhouse, 1996)

The number of ghost towns is increasing in Southern Italy (Confcommercio and Legambiente, 2008). The progressive globalisation of our economies over the last century, orchestrated by *“the pyramid of power that contemporary financial capitalism imposes upon the world”* (Frey, 2014, p13) combined with the speed of urbanisation have uprooted the viability of thousands of small communities turning them into *“discarded elements of the modern consumer society”* (Di Figlia, 2013, p1).

Worldviews are formed to solve problems (Laszlo, 2007). They change when existing solutions no longer work and mounting problems require new approaches. This research suggests that ghost towns are the result of a convergence of multiple crises, incorporating human, natural and economic factors. Following Einstein’s proposition that problems cannot be solved by the same level of thinking that created them, the research has examined emerging innovative approaches, which could address the abandonment as an opportunity to implement sustainable conservation strategies of multi-stakeholder response.

Guided by the research question: how contemporary sustainability approaches could support urban conservation practices in abandoned towns in Southern Italy, promoting the restoration of local identity and enhancing resource-efficient local economies two pathways were identified.

First, the research considered the community-led ecological settlement approach of rehabilitation of a ghost town developed by Torri Superiore (TS) demonstrating a fine balance between conservation and sustainability concepts. Torri, a settlement on a human scale, of healthy buildings, of native species and productive plants, of creative conflict solving (Kennedy and Kennedy, 1997), has ranked high in most of the conservation and sustainability principles particularly in the linkages across different sectors and in the social design. A solid social foundation was built over time from where the cultural duty of conservation of the historic settlement sprang incorporating ecological and economic interventions.

UNESCO’s *Recommendation on the Historic Urban Landscape* (2011) proposes a better integration and framing of urban heritage conservation strategies within the larger goals of overall sustainable development. Behind the concept of *Albergo Diffuso* (AD) the research found a systemic way to integrate tourism, receptivity, community identity and local economies in the context of semi-abandoned settlements. The presence of tourism in Castelvetero has increased to an average of 40 daily visitors a day during the summer and full capacity on the weekends (Cresta, 2011).

The comparative study between the two conservation interventions has demonstrated that while the TS community-led approach to rehabilitation was driven by a strong social component, in the case of the AD intervention, the economic dimension was the catalyst for the conservation process. The research concludes that combining elements of the two approaches combined could provide a progressive framework through which the current trend of depopulation and abandonment of villages in Southern Italy could be reversed.

The study has also found that integrated conservation, combined with green building, organic agriculture, social entrepreneurship, environmental preservation, waste minimisation, and alternative energies (Dawson, 2006), are not eccentric concepts conceived by idealists, but accepted discourses that permeate the life of citizens and policy makers.

Finally, this research has opened multiple windows of further investigation. Under each principle contained in the **Framework of Sustainable Urban Conservation for Abandoned Towns** there lies a pathway of further enquiry of finely grained new evidence and lessons that can be uncovered and learned. Widening the circle of participation to include women and youth in the decisions pertaining the rehabilitation of ghost towns in Southern Italy is an area that invites further investigation.

Further conservation policy research may be focused on the differentiated responsibilities between regional and national authorities enshrined in the Italian Constitution with a view to better defining their respective responsibilities over the abandoned towns. In terms of sustainable conservation practice the irreversibility of the urban fabric as ghost towns undergo ecological restoration is an area that also invites further technical research.

To ensure that the outcome of such studies feeds into the conservation policy and planning process, an effective interface needs to be developed between researchers and other stakeholders, particularly policy leaders and bureaucrats. It is important to ensure that reports on the studies are as comprehensive as possible so as to facilitate decision-making on design and implementation of revitalisation of ghost towns.

Ghost towns tell of a time not far away, still present in the collective memory (Di Figlia, 2013), where settlements were embedded in landscapes in a rich tapestry of cultural and natural values woven over time. Today they are the silent testimony of a time when culture and identity, geography and topography, diversity and exchange were eloquently expressed in a scale appropriate to the bioregion. Tomorrow they may become the living statements of a time when humanity re-ignited the locally adaptable, culturally rooted, energy conserving, technologically appropriate, inter-generationally balanced, place-based values and practices needed for historic rural settlements to thrive.



Source: Author.

"Where there is ruin, there is hope for a treasure."
Rumi, 13th Century

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