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The Sustainable Tourism Management of Cultural Heritage: the Case of the Rosas Mine in Sardinia

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ABSTRACT

The paper focuses on the management of an ex mine complex listed as a UNESCO geopark, located in Sardinia (Italy), in which cultural and hospitality services are provided for visitors. First, it aims to explore a local community's attempt to re-appropriate its former mining territory and seek a tailor-made sustainable development approach to manage its cultural and industrial heritage. Then, it analyses the organisational framework and sustainable management model of the Rosas mine village aimed at generating value both for local people and tourists, within a broader conceptual framework in which the tangible and intangible resources that comprise a milieu are crucial for implementing sustainable tourism development policies. The study was carried out using a qualitative approach, and methods adopted included case-study research and interviews with stakeholders. The main result reveals the performance of a challenging business model, based on a novel approach to the management of public-private heritage in a depressed area, inspired by the sustainable reinvention of its local heritage. The purpose of the study was to investigate a case of sustainable management heritage that might be applied in similar contexts. It may hopefully be the basis for future investigation as a case in itself, and for comparative research particularly in sustainable business models for heritage management.

Keywords: Sustainable Tourism Development; Cultural Heritage Management; Sustainable Business Model; Value Creation; UNESCO Geopark;

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Introduction

One of the key issues currently being debated by public policy makers, private businesses and the scientific community is how best to revive and exploit the full potential of a country's historical heritage and cultural identity (Zan et al., 2016; Mossetto and Vecco, 2001). In this regard, there is a common consensus that culture is now the central paradigm for a new approach (Di Renzo, 2006). Given the fundamental importance of *heritage* in a country such as Italy, theoretical research and the practical implementation of experimental management models in the field of heritage as a whole has given rise to wide-ranging and varied scenarios.

This study examines efforts made to regenerate the management of areas designated as examples of industrial archaeology, which have important implications for their role in economic and social redevelopment. The mining areas of Sardinia, located in the South-western part of the island, constitute an identity heritage bequeathed by the now long gone mining activities which have left certain communities socially and economically impoverished, as a result of the disintegration of the social fabric, the loss of skills and knowledge associated with those industries and the consequent depopulation of nearby urban areas. In addition, the environmental emergency following the decommissioning and closure of the mine was a priority concern.

The case study investigated here is that of the Rosas mine, which provides an interesting example of the sustainable redevelopment of both material and non-material heritage. The former comprises the large mining works and machinery, the miners' villages and the mines themselves; the latter refers to reviving local identity by stimulating and enhancing both social and economic growth.

This study will start with an overview of the history of local mining site, and a description of the management adopted (a mix of public and private control) and will highlight the positive outcome and prestige gained, as well the considerable level of satisfaction felt both by the people employed and those that have visited and experienced the museum and the facilities of the complex in general.

The various stages of the project to restore the Rosas mine went hand in hand with the creation, in 1998, of Sardinia's Geomineral park of historical and environmental importance, which was recognized by UNESCO (United Nations Educational, Scientific and Cultural Organisation) as the first geopark in the World Geosites Network. The park itself extends over eight separate areas of Sardinia, covering a total of 3800 km², and incorporates 81 municipal administrative districts, making it one of the largest and most diverse national parks in Italy. The Park consequently has assumed the role of key protagonist throughout the entire area in carving a path towards economic recovery and the creation of fresh opportunities in a new, still on-going historical phase. The Geomineral Park is considered here to have an active part in the innovative management model, though as will be discussed below, the municipal administration of Narcao, in the person of its mayor, have played a cardinal role in overseeing its development.

A key aspect of this particular case is the drive to create new professions for the younger generations by finding new ways to exploit local heritage in an economically depressed area of Sardinia, such as the Basso Sulcis. Indeed, this study focuses chiefly

on the transition of a former mining community, which has used local knowledge and culture produced by the mining community itself as a starting point for a model of sustainable development founded on building renovation and environmental regeneration. It is through the direct involvement of the local community (Landorf, 2009a; 2009b) that attempts can be made to experiment with new methods of organisation produced by the knowledge industry, (i.e. non material production) and that culture can be propagated and strengthened.

Following this introduction and the methodology, this study is then divided into four parts: the first outlines the main stages in the history of the Rosas mine with the aim of explaining the ways in which the past has directly influenced both the mining restoration project, and its management imprinting; the second discusses key concepts associated with heritage and sustainability in order to establish the research context in which the sustainable management of the Rosas mine has been undertaken; the third analyses the management model as applied to the mining site, highlighting in particular how it is regenerating wealth and creating value for its stakeholders, applying the principles of a sustainable businesses approach. The final conclusive section summarises the salient features of the points discussed in the paper and the most significant features of the case study examined.

1. Methodology

The study was undertaken following a qualitative methodological approach, with the clear research objective of analysing and describing the case in hand, and of identifying the key factors that determined the success of this restoration of local heritage and the management model applied therein. The research methodology was a combination of a case study and in-depth semi-structured interviews conducted with the president and two employees of the Rosas organisation, at the mining site, as part of the in-field research undertaken in April 2015. Moreover, a second part of the fieldwork was undertaken in August 2016, by means of open interviews *in situ* with visitors in order to gather information on satisfaction levels of their experience. To this end, an *ad hoc* investigation on tourists' experience was conducted by Cannas and Pettinao (2016). In particular, during the II edition of the event "Red in the Mine" (a local event offering the chance to taste food and red wines produced within the neighbouring territory, which also combined guided tours into the mine gallery led by local ex-miners) held on the 26th of August 2016 at the Rosas Mine Village, it was possible to make observations in the presence of about 300 visitors, and conduct open interviews with around 10 visitors, as well as open interviews with four staff members of the mining site. The interviews were then processed by a content analysis and constitute the primary data of the present study. Triangulation of data was obtained through a review of the literature, on-line resources, newspaper articles, and other studies concerning the Rosas mine.

2. The Rosas mine: using past perspectives to improve present conditions

Situated in the municipal area of Narcao in the 'Sulcis Iglesiente' region of Sardinia, the Rosas mine has a long history that is part of the whole island's history of mineral extraction that went on in the island of Sardinia over several centuries in the modern era, but also in ancient times; obsidian was mined here as long as 8,000 years ago. The rich deposits of lead, zinc and copper in the Rosas mines were first located in 1832 and the name comes from a nearby mountain of the same name. Mining works started in the middle of the 19th century and since it became immediately evident just how rich the deposits were, the municipal district of Narcao was incorporated into the Kingdom of Piedmont Sardinia and its population grew notably from 561 inhabitants in 1824 to 2,316 in 1858 (Sabiu, 2007).

Over the course of its history, the Rosas mine was subject to fluctuating fortunes, depending on changes in legal regulatory frameworks regarding administration and markets, and thus lived through alternate periods of expansion and contraction. In fact, mining concessions changed hands from Italian to French and British entrepreneurs, apparent in the architectural changes brought to buildings - the wood encased washery was made during the management of the Frenchwoman Elena Felicita Poinsel, in the second half of the 19th century. There was an intense period of development in the first half of the 20th century with an increase in the quantity of plant machinery and the construction of a generating station. Inevitably the two World Wars interfered somewhat with this phase of expansion. The construction of a miners' village in the 1930s bears witness to the importance of the mine. During the twenty years of fascist rule with the imposition of an autarchic economy, levels of production were increased due to the closure of access to international markets (Sabiu, 2007). Right up until the Second World War, the extraction of minerals proceeded apace and reached its peak just before the outbreak of the conflict, after which the whole scenario changed radically (the male workforce were all sent into combat) and the industry had to undergo a complete overhaul. After the war, mining works continued until that particular cycle of production came to an end as a result of increased competition from abroad.

This happened despite efforts from both the national and regional governments to keep the Rosas mine (as well as other mines in the island) operating. When mining concessions were revoked in 1970, there followed a decade of trade union struggle to keep the mine open and avoid the loss of jobs. But the final closure of the mine signalled a dramatic end to a century old prosperous economy and the disintegration of a socio-economic reality due to the gradual abandonment of the mining village, with its workers' houses, school, post office and water mill.

After a further decade of gradual abandonment and collapse of the socio-economic fabric of a mining community that had been the stronghold of the whole territory, a new phase began for the mining area and its population. Plans laid down by the local communal administration of Narcao to restore the whole mining complex were prompted by two events: the setting up of a geomineal park as a measure to

safeguard Sardinia's historical environment and the listing of the mine as a heritage site by UNESCO. Plans for the geomineral park project were initially drawn up in 1998, but the management consortium itself only came into being in 2001, following a long and complex process of negotiation (Castelli and Pintus, 2005) that involved the mobilisation of the local population and the president of the Sardinian mining board (EMSA), who organized an occupation of the mining sites to sensitize public opinion to the importance of the park. A group of miners occupied the 'Pozzo Sella' in Monteponi for a whole year (Castagna, 2008), which prompted the creation of an NGO named Associazione Pozzo Sella that began to lobby regional and national politicians. Academics and researchers also contributed to the creation of the geomineral park, as they had with the recognition of the mining area as a UNESCO heritage site in 1998. Under the auspices of UNESCO, the Rosas mine was opened to visitors in 2009.

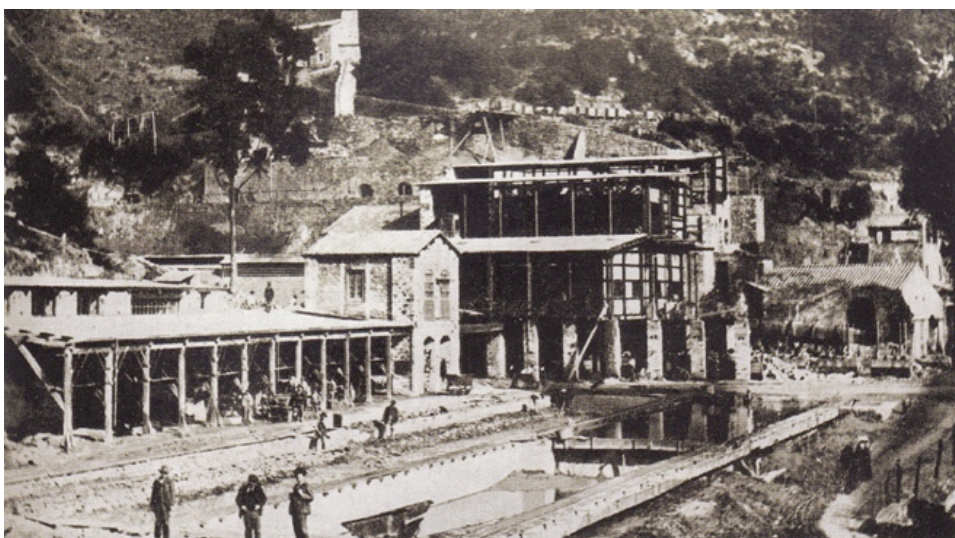


Figure 1: The Rosas Mine village in the past

Source: *The Rosas Mine Association*



Figure 2: The Rosas Mine village today

Source: *The Rosas Mine Association*

After almost twenty years of preparation, the renovation of the ex-mining site has today established the mining village as an educational, recreational and touristic centre thanks not only to the building restoration, but also to the revival and conservation of a historical memory of great significance. The restoration work carried out was carefully designed not only in respect of the original style of the buildings, the materials and the construction techniques but also in respect of the natural environment that was left untainted by the restoration work. A key step in the process of returning control of the mine to the local community was the transfer of ownership from SAMIM, a joint stock public limited company in the mineral-metallurgy sector that was a subsidiary of ENI (National Hydrocarbons Board), to the municipal administration of Narcao. This was necessary in order for the municipal administration of Narcao to compete for the allocation of financing from the EU. The subsequent allocation of European funds made it possible to begin building redevelopment and the rebirth of the village community. The strategy employed by the municipal authorities to gain control of operations was to threaten to sue SAMIM for causing an environmental disaster. The president and senior managers of SAMIM were summoned to the municipal offices and were made to surrender ownership of the dilapidated mining complex for a symbolic sum of one lira. According to those involved, the cessation of ownership signalled a turning point and laid the foundations for the project of revival and renewal. Having acquired full control for self-management, the local authorities felt motivated and responsible to make a success of the Rosas mine. Considering the tortuous history of mining concessions that exchanged hands over time from private individuals to foreign companies to public limited companies, puts into focus how the return of the mining assets, which had been on the point of being dismantled and sold (in 1987 the municipal authorities issued an injunction to block the dismantling of the machinery that SAMIM had sold to a recycling company), marked the first significant stage in salvaging this piece of heritage. The municipal authority of Narcao is the only one in Sardinia to have full ownership of their own site, while mining heritage overall is under the management of the Geomineral Park and other individual local authorities and is owned by the Sardinian regional government. This aspect is crucial because, as the legal owner of the mining complex, the Local Council of Narcao was able to apply directly for funding made available by the European Union for projects such as the restoration of the ex-mining site, and to closely follow its path of development.

3. Managing heritage within a framework of sustainable development: theoretical contributions

The main aim of this study is to investigate how the value creation and the advantages gained from renewed social and economic activity, in this case the management of the mining identity heritage by a determined local organisation, will benefit both enterprises and their stakeholders, and the value creation that benefits the stakeholders will result in commensurate advantages for the enterprises involved.

The starting point on heritage and how effective management can regenerate not only

the cultural assets of a community but also its natural environment and its historical and archaeological heritage, is the idea of territory, in the sociological sense of a *milieu*: *“a permanent socio-cultural grouping of people settled in a specific geographical area that has evolved over time through a combination of constructing social networks in relation to the modalities of use of natural local ecosystems”* (Dematteis, 1994, p.15). The things that most help define a territory are its local resources and unique characteristics, together with the sum of interactions among individuals that create and utilize these ever-changing resources (Governa, 1997). In other words, the milieu is the sum total of all natural and artificial elements – social, political and cultural – which form the basis for production (Golinelli, 2008). Thus, milieu must be considered not only as the common term of reference for a territory on which local collective identity is constructed, but also as *“the pattern of evolving processes that take place within the system itself”* (Governa, 1997, p.65). The concept of territory is a fluctuating one, since it does change over the course of time. For example, the Territorialist school (Magnaghi, 1998) makes the observation that within the paradigm of modernity, which reached its zenith with Fordism, territory is often viewed as *“a mere technical support to economic and social functions that are located and administrated according to principles that are independent from direct relations with the physical place and its environmental characteristics. (p.4)*. However, the Territorialists argue that territory per se is in fact the end result of a far more complex process: *“It’s a system created by the interplay between physical, natural and man-made environments, and thus encompasses physical places that have historical associations, identity, distinctive features and individuality: it is a highly complex living organism”* (Magnaghi, 1998, p.4). In his analysis of the decline of the industrial model of development founded on urbanization and the concentration of industrial production, Gatti (1994) describes the emergence of new differentiated forms of development, in which novel modes of organisation, diverse models of production and territorial management place greater emphasis on the strategic importance of non-material components. What clearly emerges in the works of contemporary economic and social researchers is how all the various constituent parts of a territory must be viewed as a complex system that requires concerted efforts from the whole range of actors involved.

As stated above, the idea of heritage is strictly linked to the concept of territory. The origin of the term lies in the idea of heritage as the assets of a family, or a population’s physical identity traits (Vecco, 2010), or the buildings and monuments that comprise a country’s national architectural heritage. Today, heritage covers various aspects that are more akin to the systemic concept of territory: *“Heritage places cannot be protected in isolation or as museum pieces, isolated from natural and man-made disasters or from land-use planning considerations. Nor can they be separated from development activities, isolated from on-going social changes, or divorced from the concerns of the communities”* (UNESCO, 2013, p.12). It is well known that World heritage conventions designate sites that include cultural heritage in general, towns, archaeological and industrial sites, countryside areas and cultural itineraries; however, it is also recognised that these heritage sites require more wide-ranging and concerted efforts to be effectively managed (UNESCO, 2013), simply because they are closely entwined with other environmental, social and economic features of a territory as a whole. Further, the dividing line between the concrete and intangible aspects of

heritage tends to place increasing emphasis on the emergence of the latter, as noted by Vecco (2010).

The overall revival of a territory will entail the renewed flourishing of the unique cultural characteristics that most distinguish it, and can by no means be dissociated from the derived benefit of use and the management methods thanks to which such benefits can be enjoyed. It can be assumed that the debate on how to achieve a balance between conservation on the one hand and resource exploitation on the other has been settled (Barile and Saviano, 2012). The most prominent concept today then, as declared by the World Commission on Environment and Development, is that of sustainable development that will satisfy the needs of current generations without compromising the opportunity for future generations to satisfy their own needs (WCED, 1987). The basic premise here is recognizing the need for a systemic, holistic approach to the new role of enterprises, devoid of antagonism between culture and the markets, in order to rethink and strengthen the utilization of cultural goods. As Montella (2010) affirms, goods have a perceived rather than an intrinsic value, and he cites the example of the stones from the Colosseum in Rome used to construct new buildings. Implementing effective management strategies can contribute to establishing and producing perceived value in cultural assets, by providing effective and efficient instruments for the creation of wealth. Consider for example, as will be discussed below, how companies and prospective consumers of a mining site such as Rosas perceived there to be such little potential worth that a company and teams of workers were initially sent in to dismantle the obsolete machinery for metal recycling, until a court injunction requested by the municipal authorities stopped the whole dismantling operation and years later transformed the mining village into a cultural and tourist attraction that has generated wealth and now supports the needs of thousands of beneficiaries of the project.

The management of a whole range of cultural, historical and environmental assets necessitates the involvement of both stakeholders and local communities (Aas, Ladkin and Fletcher, 2005; Landorf 2009a; 2009b), even though the aims they pursue may not always converge (Barile and Saviano, 2012). The chiefly public nature of the assets in question means that determined efforts are needed in both the planning and action phases. It should also be remembered that projects designed to enhance the value of territorial heritage invariably involve promoting tourism. An increase in tourist numbers will often produce conflict and disagreements among those with vested interests. There are a number of examples of this in the management of World Heritage Sites (WHS), most of which were started with the aim of preserving and passing on the heritage to future generations, but have subsequently had grave problems with the sustainable management of the impact of tourism (Landorf, 2009a; 2009b). Sustainable development must involve 'bottom up' participation and dialogue between all stakeholders in order to choose the optimal path towards sustainable development.

A conceptual thread running through this whole subject is rooted in the management of culture, in particular its role in value creation. Theories of value creation identify organisational conditions and structural features that facilitate the process of creating a cultural product and the bringing together of creativity and innovation (Franch, 2010). The multitude of different groups and individuals that reside in a given area and

the consequent interweaving of a variety of diverse social relations, calls for management models most suited to the stakeholder approach (Freeman, 1984). As Franch asserts (2010), *“the interest and power groups involved in creating and promoting the cultural value of an asset put together specialist knowledge and skills (...) consider the demands and requests of citizens (...) or private interests (visitors) and by mediating relations between and among all individuals and groups can achieve the aim of increasing the economic and intrinsic value of a cultural asset”* (p.99).

The subject of value creation as a distinctive factor in the management of cultural goods needs to be better explored in order to investigate the Rosas mine’s business model. Therefore, to identify the mine’s business model geared to promoting its sustainable management as a cultural and tourist site, theoretical concepts are drawn from the literature on this matter.

Although Morris, Schindehutte and Allen state that *“no generally accepted definition of the term “business model” has emerged”* (2005, p.726), they suggest an integrative framework which incorporates different conceptual and theoretical roots around the core concept of value creation: *how* and for *whom* do firms *create value*? The same common thread that runs across different notions of a business model, which, as Casadeus-Masanell and Ricart (2010) note, encompasses innovation, value chain analysis, the resource-based view of the firm, dynamic capabilities, transaction costs and strategic networks, is well illustrated by Baden-Fuller and Morgan (2010), and Demil and Lecocq (2010). In the view of these scholars, a business model deals with the logic of the firm, the way it operates and how it creates value for its stakeholders. However, this is a definition of a business model that still excludes the notion of sustainability.

The pioneers of sustainable business models, Stubbs and Cocklin (2008), conceptualise an ideal type of sustainability-oriented models in which different structural and cultural attributes of an organisation are essential. Such attributes include developing community spirit, investing in employees’ trust and loyalty, and engaging in sustainability assessment and reporting. In their view, a sustainable business model (SBM) draws on the economic, environmental and social aspects of sustainability in defining an organisation’s purpose. They state that *“An organization adopting a SBM develops internal structural and cultural capabilities to achieve firm-level sustainability and collaborate with key stakeholders to achieve sustainability for the system that the organization is part of”* (Stubbs and Cocklin, 2008: 123). It is a company business model whose underlying conceptual basis is firmly rooted in a more holistic approach.

Following this pioneering study, Boons and Lündecke-Freund (2013) analysed business models and sustainability innovation by identifying four of the elements that comprise such business models. They may be described as follows: 1) *value proposition* provides both ecological, social, and economic value through offering products and services, 2) the *supply chain* involves suppliers who take responsibility towards their own as well as the firm’s stakeholders and the business infrastructure, 3) the *customer interface* facilitates close relationships between customers and other stakeholders under the principles of responsible consumption, and 4) the *financial model* distributes economic costs and benefits equitably among actors involved. Schaltegger, Hansen and Lündecke-Freund (2016) state that: *“A business model for sustainability helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition*

to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries.” (p.6).

Moreover, Lusiani and Zan (2016) note that while analysing the business model of a cultural organisation, it is essential to focus on the specific configuration of its *institutional setting*: “*By institutional setting we mean the governance structure, that is, the solution designed to manage and coordinate the activity of an organisation*” (p.66). As explained by them, the institutional setting of an organisation implies the selection of bodies or individuals that are involved in its institutional structure: the functioning mechanisms of its various organisations; the legal status; the definition of roles and responsibilities, and the decision making process. The institutional setting is also crucial in any analysis of the economic sustainability of a cultural organisation. As Lusiani and Zan (2016) have noted, cultural management studies have rarely dealt with how cultural organisations manage to survive and to be economically sustainable.

4. Managing the Rosas mine: the business model

The notion of *sustainable* value creation is at the heart of this study and analysis of the Rosas mine business model. By taking a fresh look at the theoretical underpinning of business models advanced by various authors such as Morris, Schindehutte and Allen (2005), Demil and Lecocq (2010), Boons and Lündecke-Freund (2013), Lusiani and Zan (2016), and Schaltegger, Lündecke-Freund and Hansen (2016,) this study begins its investigation of the Rosas mine’s business model by answering the following three questions: 1) how should its organisational structure be designed to achieve sustainable goals? 2) How exactly does the Rosas mine create value? 3) For whom does the Rosas mine create value? The key to answering the first question is the institutional setting. Then, in order to answer the second question, factors related to the product, resources and competencies are explored. Finally, identifying the Rosas mine’s business philosophy and its potential customers are the keys to answering the third question. Also, the Rosas mine value creation process implies having a clear focus on how to engage its stakeholders in the process as a whole, for example by considering their satisfaction levels. Finally an overview of the mine’s outcomes is essential.

4.1 The institutional setting

The administration of the mining village is entrusted to the Rosas Mine Association, an ad hoc organisation, which is divided equally between members of the municipal authorities of Narcao and Sardinia’s Geomineral Park authorities. The administration Council consists of three representatives: the mayor of Narcao (who is also the association’s president), the local councillor responsible for the environment and the president of the Geomineral Park. The administration Council has the task of decision making and planning of activities in general. When the time comes to present the

annual budget, the president reveals the activities planned for the year to come. The management of the mining village is thus focused around the figure of the mayor of Narcao, Gianfranco Tunis, who is *de facto* the managing director. His university studies in economics and business management, together with his career as a regional government official and his experience in politics at both regional and national level (he has been regional councillor in two legislatures as well as a senator of the Italian republic) meant he was the person best placed to carry forward the development project and to remain involved in the management of the mine. Having also been mayor of Narcao six times, it is clear that he has been both protagonist and guarantor of the on-going success of the project. As stated by the president during the interview, it is thanks to the successful management of the Rosas mine that the whole Geomineral Park has maintained its status as a UNESCO geopark site, following a visit by officials responsible for the task of verifying awards.

4.2 Factors related to services, resources and competences

The Rosas Mine Association oversees a complex based on cultural services, catering business, and accommodation facility. As regards the latter, the Rosas mine has adopted a model in which accommodation is 'spread out' (Confalonieri, 2011; Paniccia, 2012), which means it consists of a single entity managing hotel facilities but with rooms that are located in different buildings across the village, away from the central hub. The Rosas mine's 'spread out' hotel has a reception area and offers various types of rooms (formerly the miners' houses and the former school), which can accommodate a total of 120 guests. The village has a series of guest houses that can host over 60 people; there are double or quadruple rooms with en suite bathrooms, or multiple occupancy rooms with shared bathrooms. In the square where the ex-washery stands, there is a bar, while the building that used to house the post office is now a restaurant run by the miners' wives where guests can sample typical local specialities at lunchtime.

The heart of the village is the ex-washery that was used for the treatment of precious minerals and best symbolizes the whole history of Narcao. It is indeed the building that harbours the material and cultural memory of the historical period of a community that lived by mining, but it also keeps alive the memories of those intangible values passed on through story-telling and in literature. Stories abound of the epic deeds and feats of miners not just in Narcao and the Basso Sulcis area but in Sardinia as a whole. The museum displays are equipped with state-of-the-art Information and Communications Technology (ICT), as in many contemporary museums (Bonacini, 2011). Yet the museum at the Rosas mine is not an entirely traditional one, even though it has been designated such by Sardinia's regional government. There are in fact three separate typologies of museum each with a distinct character and design: in the washery there are interactive displays that use visual and sound effects to recreate the working conditions of miners and allow visitors to experience first-hand the technology used at the time in the form of the still operational large watermills that served to process the minerals. The anthropological museum tells the story of the life and working conditions

of the miners and their families as well as describing the various trade union battles and the working conditions of women and children. Several features of the daily life of the community are recounted, such as the sacrifice endured due to the heavy work, the diseases contracted, the mining accidents but also the strong sense of social cohesion and moments of celebration. The third museum is actually the park itself, part of which occupies the area of the old mining complex, in which visitors can see the fascinating industrial buildings restored to their former glory. The countryside around is typical of Mediterranean scrubland and there are numerous natural trails to be enjoyed on foot, by bike or on horseback.

The Rosas Mine Association has 10 employees supervised by a fine arts graduate director. Responsibilities include running the hotel reception, working as guides in the museums and mining galleries (those that the public have access to), as restaurant and bar staff or as cleaners and maintenance staff. The Reception, public relations and educational programmes are run by young men and women who have graduated in environmental sciences, literature and tourism. The bar and restaurant staff all have relevant experience in their field.

Internal communication is either by face to face exchanges or by phone. There is daily contact between the president and employees and among the staff themselves. During the interview sessions, one of the workers said *"We're in contact at night sometimes, maybe too much"*. The style of communication is typical of that of a small family-run business, where the president is the father and the employees his children or younger brothers (as is the case with Luciano, who runs the bar). In Educational workshops in the museums and functions organised by reception – a year round service – employees have some organisational freedom, though initial choices in planning are the sole responsibility of the father-president. The restaurant is run on a strict budget, according to the wishes of the president. While the bar is open all hours and serves snacks and grilled foods, the restaurant opens for a minimum of 10-15 people and booking is required. The president justifies this decision in order to keep costs down, although it may have to be reviewed in the long term, especially if the hotel's classification advances from 2 to 3 stars. The choice of local traditional dishes on the menu is also decided by the president. Only local produce is used, the pasta is home-made by the restaurant personnel themselves and on occasions by the president's wife, who will cook for regular customers. As far as possible, meat is also locally sourced. The "zero kilometre" policy, using local businesses, is part of the sustainability approach for the mine's management, chosen by the local community under the guidance of the municipal administration.

External communications take various forms and use a variety of channels:

- websites of the association, the municipal authorities of Narcao and the Geomineral Park;
- social media: there is an active facebook page which is kept updated and contains photos and videos posted by visitors themselves; blogs that contain collections of articles where customers leave enthusiastic comments;
- newspaper articles (in regional and national press) and magazines such as *Bell'Italia*;

- brochures distributed for example on ferries to Sardinia or by leaflet distributing companies to advertise up-coming local events;
- mailing lists: every year the teachers who carry out the educational workshops send mails to schools in Sardinia, to renew invitations to visit the museum. Children are always fascinated by the stories that the guides tell and they love seeing the mining works, the impressive buildings and the mining galleries;
- events such as workshops, promoted by the Geomineral Park authorities, to encourage research and training.
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Important communication channels are available to maintain public relations thanks to the president's past and present contacts with the world of politics as well as with stakeholders, the university and businesses. The same applies for keeping up relations with the local community as a whole.

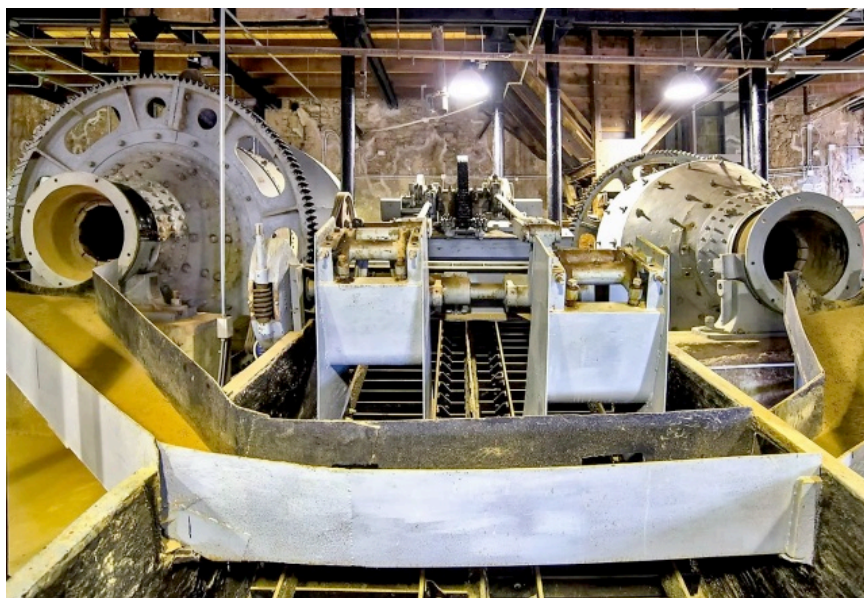


Figure 3: Particular of the washery

Source: *The Rosas Mine Association*

4.3 Customers and corporate philosophy

Most visitors to the Rosas mine are from Sardinia, followed by Italian nationals and foreign tourists. There are three main target groups: families, individuals and groups, with the latter being the most numerous. The vast majority of groups are primary and lower secondary students on school trips; they come from all over the island, mainly to visit the museum. Other groups include motorcyclists, trekkers, Rotary and Lions groups, and scouts. Furthermore, the mining village is also a good venue for ceremonies and celebrations such as weddings (civil ceremonies are performed by the mayor) or confirmations.

The mining village itself is basically a continuation of the centre of Narcao, and numerous social events are held there, which is of course in line with the social

philosophy embodying the management of the village: open spaces, accessible to all not only physically (the restaurant and some rooms are available to anyone), but also in terms of pricing. In fact, cost for rooms is more than reasonable (a double room costs 44 euros in low season and 50 euros in high season) and are most competitive given the quality of services offered. As the president affirms, those involved in the management of a place of cultural heritage such as the Rosas mine must not forget it is a public good. An entrepreneurial approach that doesn't accept the primary role of a public body would, he argues, simply not work in this particular socio-cultural context. The key point here, and a point that the president never tires of stressing, is that private sector management focused solely on profit margins will upset the equilibrium of the local community that must be a place open to all, not only in the physical sense, as a location for great walks for example, but in the non-material sense, inasmuch as it is an integral part of the residents' collective identity. Moreover, there could be negative effects on visitors from outside. If costs increased with private sector involvement, school trips and other groups may not be so willing to take advantage of the educational opportunities offered. Unlike in other European countries such as France and Denmark, social tourism to promote social inclusion through policies based on sustainability have not yet taken root in Italy (Cannas, 2006). Even though the Rosas village may currently have fewer visitors from other parts of Italy and from abroad, it is always apparent that those who do come are invariably fascinated by this unusual corner of Sardinia that is so different from the picture book image of sunny beaches portrayed in brochures. This other side of Sardinia consists of people, with their local identity, history and culture; they too are a potential tourist attraction. It is also the way forward to resolving the perennial question of how to lengthen the tourist season (Cannas, 2012), a problem that afflicts Mediterranean tourist destinations in particular, and for whom cultural tourism can go some way towards bridging the gap between the high tourist season and the rest of the year (Cisneros-Martinez and Fernandez-Morales, 2015).



Figure 4: Visitors at the Rosas' mine shaft

Source: *The Rosas Mine Association*

4.4 Value creation through stakeholder satisfaction

One thing that emerged from the on-site interviews with the Rosas Mine Association employees is their high level of job satisfaction, manifested in their non-verbal communication, such as the manner in which customers are welcomed. This aspect of *cultural heritage tourism* is addressed by Wells et al. (2015). As one employee of the Rosas Mine said: *"I'm thinking about work even when I'm at home, when I wake up. ... I think about how to resolve a problem or improve a service ... Everyday brings new experiences. No two days are the same ... I like what I do, the site, the contact with nature"*.

A further value derived from the mine is the satisfaction expressed by customers and felt by the staff from positive feedback. For example, Tripadvisor (updated to 10/09/16) has 28 excellent ratings, 14 very goods and no complaints, though of course criticism has been levied at Tripadvisor for 'favourable' positive ratings. Rather than the numbers of visitors per se, it is visitors' comments that help to strengthen good practices in running a business, generating income and satisfying needs in general. Social networks are also helping to assess levels of customer satisfaction and create *authentic experiences* (Jureniene and Radzevicius, 2014). One blog review (www.sardegna.blogosfere.it) was particularly satisfactory as it endorsed the best practices of management outlined above, and was exemplary in praising the pleasant atmosphere felt by those who experience it first-hand. Written by two tourists from Bologna, the blog describes their impressions in some detail and mentions the things that most impressed, such as the personal touch (staff and customers on first name terms), the tangible and intangible aspects they perceived, such as the revived historical memory of the mine, best understood by a visit to the washery and mining tunnels. They also appreciated how the guides portrayed the socio-economic history of the mining village through storytelling, as well as descriptions of the tastes and flavours of food they used to prepare (in:<http://sardegna.blogosfere.it/post/206438/sardegna-a-narcao-apre-lhotel-della-miniera-immerso-nel-verde-e-gestito-dagli-exminatori-bellissimo>).

Moreover, customer satisfaction at the Rosas mine's was measured by Cannas and Pettinao (2016). In their sample of 87 visitors, the level of satisfaction expressed by 95% of them was 'very high', with zero complaints.

4.5 Outcomes

In 2015 the Rosas Mine Association had an annual turnover of 400,000 euros, in addition to a contribution of another 30,000 euros from the two public bodies that comprise the Administration council. Visitors number about 10,000 per annum, while the hotel hosts roughly 600 guests in a year. The largest source of income is the restaurant. Yet these figures are just one side of the coin, because the socio-economic

benefits from a business that sustains ten families and allows a local community to thrive transcend mere statistics. *“For businesses, the value of culture is incalculable, so there is little point in attempting to measure it. Culture doesn’t need to have its worth quantified, it must simply be preserved and cultivated”* (Baccarani and Golinelli, 2011, p.11).



Figure 5: The reception of the Rosas Mine’s “albergo diffuso”
Source: *The Rosas Mine Association*



Figure 6: One of the buildings of the hotel
Source: *The Rosas Mine Association*

Discussion and final remarks

This research will be of great interest to those interested in management studies since it has looked at an emblematic case of regeneration and conservation of a UNESCO heritage site governed by its own local community, using principles of sustainable development. It was achieved by reviving and developing the cultural areas and industrial archaeology: the old Rosas mine in the municipal district of Narcao is today a centre for environmental education, and also a split-site hotel. In particular, the case examined here represents an example of the sustainable land management of local heritage in a depressed area with grave socio-economic difficulties, the Basso Sulcis, which occupies 104th position in the Italian national ranking list of provinces according to GDP. The national average stands at 24.242 euro (ISTAT, 2014), while the average for this area is just 13.301 euro. Before this new management project got underway just six years ago, the Rosas Mine was already a recognized UNESCO site, as part of the Sardinian Geomineral Park, and the local community had already begun to channel all their passion and energy into its revival and development. The initial project to renovate and reconstruct dates back to the end of the 1980s, when plans to develop cultural tourism through the creation of museums had already been put in place. The goal was to apply the principles of the territorialism school, which are based on the multifaceted and systemic concept of territory, and to ensure the local community's right to self-determination in matters of development.

The organisational model that grew out of this project was based on a combination of public and private initiatives and remained true to its goal of creating conditions of development of a publicly owned asset using a private business model. This is known as an open economic model, which unites the need to maintain a system of self-financing of the mining village, with a view to being environmentally sustainable. Indeed, safeguarding the environment is an integral part of running costs, given that a part of the proceeds are dedicated to the maintenance of buildings and surrounding land. A further factor is social sustainability, guaranteed by providing access for various sections of the community to enjoy the benefits that heritage can bring. (Note once again that so-called social accessibility is the mainstay of this management model). Currently, the livelihood of ten young local families depends on the mine, though this could rise to 15 in the medium term. Ex-miners invariably form part of their extended families.

Unsurprisingly, what this case study has once again confirmed is that a systemic integrated approach is essential when dealing with such a complex and multi-faceted project as social regeneration. In brief, the study has given an overview of what it means to: i) revive a local community's historical memory; ii) take back economic control and management of a cultural and environmental asset that was destined to be consigned to the dustbin of history; iii) give younger generations the opportunity to be directly involved in the renaissance of their community, making improvements to services and learning daily from their hands-on experience; iv) meet the demands of various stakeholders, from the local residents of Narcao to associations and groups that offer services to the Rosas mine as well as to tourists who can discover another side of Sardinia that they would not normally see. All these aspects were given importance in the business model chosen by representatives of the local community, and led by the Rosas Mine Association. The process of sustainable value creation was

achieved thanks to the high level of stakeholder satisfaction.

Finally, although this study has attempted to describe and analyse the case in some detail, there are issues that require further investigation. One is the need to look more carefully at the business model with a view to improving financial autonomy. A large part of the Rosas Mine Association's budget goes towards the continuous upkeep of buildings. It is not fully clear whether total sales revenue covers the entire costs of maintenance, or if some of them are borne by the municipal administration, by the Geomineral Park or by the Regional government. Another point to consider is how best to prepare future generations to take over the running of the mine. To date, leadership responsibility has been entirely in the hands of one man, the mayor-president, who has been so instrumental in getting things done. Perhaps an alternative vision of future strategies is now required.

It is not being suggested that the best option is private management concerned only with making money, as this could risk reducing the public's enjoyment of the mine. What would be desirable for the mine in future though is a more structured managerial approach, which means: more appropriate and coherent planning and greater speed in organising activities; making changes in personnel management to make better use of employees' skills in order to develop the company; improving marketing and communications strategies. All this implies achieving greater efficiency in management and ensuring it remains anchored in the cultural and social values of this piece of heritage, so as to create greater value and generate income for all stakeholders involved (Cerquetti, 2010; Stubbs and Cocklin, 2013). In conclusion, there seems to be a strong argument for furthering this case study and making constructive comparisons with other similar cases.

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