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THE ECONOMIC ENHANCEMENT OF MILITARY SITES AND LANDSCAPES: WHAT ARE THE LESSONS OF INTERNATIONAL PRACTICE?

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Abstract

The presence of military assets characterizes the landscape of the areas where the asset is located also in socio-economic terms. In our analysis, we first distinguish between “historical” sites covering events up to the Second World War, and “recent sites” related to the Cold War. We also distinguish between tangible heritage, such as constructions and artefacts of various ages, and intangible heritage, mainly areas where battles and major military events took place. Battlefields form the core of a variety of tourism products: from cultural and educational tourism, to commemoration of events with re-enactment of battles, to the so-called “memory tourism”, up to the so-called “dark tourism”.

We start with a short analysis of strategies adopted by public administration to dismantle and reuse historical military sites, focusing on the shift from a totally public management to the gradual involvement of privates. Usually, reuse of historical sites is addressed to tourism and cultural purposes. Then, we focus on the Cold War heritage, characterised by larger areas, important infrastructures and high environmental contamination. Private investment is fundamental to the reuse and management of these sites. A wide range of possibility of reuse has been identified. Finally, we analyse battlefield-related tourism megatrends.

Our analysis aims to make a review of reuse of military sites, especially where economic data are available to verify the amount of resources used or catalysed by the reuse of a military sites. During the analysis, we will proceed to identify the main characteristics of the reuse process. These and other information will be useful to derive general indications on what are the economic potentials (and limits) of Sardinian military vestments, considered in their dual nature of tangible asset and intangible heritage. In addition, we discuss the application of economic valuation tools to closure and reuse of military sites.

Key-words: economic valuation analysis, military heritage, public-private partnership, environmental and urban planning.

Introduction

As Woodward (2014) writes, “what precisely constitutes a military landscape remains open to debate”. The term “military landscape” refers not only to different places, buildings and infrastructures but also to their use in the past and to current attitudes toward the use of these places.

The focus of this study is the fact that the presence of military assets characterizes the landscapes of the areas where the assets are located not only physically but also in socio-economic terms. Especially in recent years, the reuse of military sites (henceforth, MS) has shaped public debate in several countries. At the same time, governments and public authorities have adopted mixed strategies and policies for dismantling, preserving and reusing these sites.

The first aim of this contribution is to review a few cases of MS reuse by identifying the main features of the assets analysed, the actors involved in the process, and the economic value involved, in terms of both the monetary costs of the interventions and the economic returns related to the presence and the (re)use of military assets. The second aim is to understand whether and how economic valuation analysis has played a useful role in this process.

Regarding the scope of our analysis, in the following sections, we will consider two time-based categories. The first considers MS related to historical sites up to the Second World War. The second category refers to recent MS related to the Cold War. A third category of sites, encompassing the previous time-based typology, will be that of battlefields, a mix of tangible and intangible assets related to historical places where military events occurred.

Historical MS reuse

Some historical MS are historical buildings (e.g., fortresses, lighthouses, coastal towers, arsenals, etc.). Until the 1980s, public spending was dedicated to renovating historical MS in order to preserve their structure and functioning. Such spending targeted important monuments (e.g., ancient castles), especially in urban areas, and these sites played an important role as tourist attractions.

Starting in the 1990s, the focus of public intervention shifted from the preservation of buildings to adaptive reuse programs, especially when the building was placed in a city centre or when it had been enclosed in a town following urban sprawl. In some cases, public authorities financially supported

renovation, management and maintenance of the site (for example, an old arsenal become part of the University buildings in Toulouse); in other cases, not-for-profit associations obtained a concession for cultural reuse, as in the case of the former *Caserma Cavalli* in Turin that was renovated by the municipality and then allocated in 2013 to a private school for novelists.

In more recent times, a recurring question has concerned the financial difficulties faced by public authorities, difficulties that have resulted in the promotion of public-private partnerships. One example is the case of the historical Royal Arsenal of Woolwich, London. In recent years, the ownership of the Arsenal passed to the London Development Agency, which invested over £1 million to support its sustainable redevelopment. A group of public and private organizations (mainly in the building sector) has been (financially) involved. The London Development Agency spent more than £45 million over a nine-year period to create conditions that would attract private investments in the Arsenal's regeneration. As of 2006, private investment (£197 million) had greatly exceeded initial public spending. The regeneration of the Area promoted direct and indirect economic activities that created 2,000 permanent and 500 temporary jobs.

Located far from urban areas, lighthouses, semaphores, sea marks and coastal towers have been neglected in the past. Recently, increased interest from tourism operators enhanced partnerships between public administrations – who owned assets but lacked dedicated funds – and members of the private sector interested in the adaptive reuse of these structures. Different projects have been developed at the international level (e.g., *Paradores* in Spain and *Pousadas* in Portugal) to transform coastal assets into luxury tourist accommodations. Members of the private sector finance “light” reclamation, renovation and management of these assets.

The first such endeavour in Italy targeted the *Capo Spartivento Lighthouse* in Sardinia, which was renovated and transformed into a small luxury accommodation hotel. The State Property Office earns €100,000 a year from this concession, and the expected economic return is about €800,000 per year. Recently, the State Property Office and the Ministry of Defence has created a new company intended to decommission historical MS (such as lighthouses and arsenals). The first set of projects under the Lighthouse Initiative has already regenerated 9 sites. For each lighthouse, official data indicate an average of €210,000 in yearly public savings related to ordinary maintenance and €400,000 in savings

related to extraordinary maintenance. At the same time, the Government will receive over €330,000 in annual fees which, given the different durations of the concessions, will amount to approximately €6.8 million for the entire period. The successful tenderers will invest about €6 million in adaptive reuse targeting tourism and cultural initiatives, with an overall economic impact of around €20 million. It was estimated that approximately 100 new jobs will be created (Ivona, 2016).

Previous examples have showcased single renovation and reuse projects. The uses of European Union funds and public-private partnerships have become common instruments to promote the renovation of historical MS. The main EU project has focused on supporting the reuse of renovated MS, mainly through cultural reuse. The rehabilitation of the London Royal Arsenal became part of SHARP program (Interreg IIIc). SHARP aimed to promote master plans and public-private partnerships to transform military sites into areas for sustainable housing, business, heritage and leisure. ASCEND (Interreg IIIc) was intended to create a Model Management Framework (MMF) for MS transferred to civilian ownership. A total of 8 Partners in different EU countries participated to the project, and the City of Venice was the Italian partner. With the *Forte Marghera*, the city of Venice also participated in the ADRIFORT (IPA), which aimed to create a model of governance of the Cultural Heritage Fort in the Adriatic area, and in the AT-Fort project (INTERREG IVc), which supported implementation plans for the adaptive reuse of military fortresses in Europe. *Forte Marghera* was taken over in 1995 by the City of Venice with an investment of € 9 million. In 2003, the city of Venice issued its redevelopment plan for *Forte Marghera*; with the AT-FORT project, the city promoted a Masterplan associated with a Management Plan: renovation was targeted to future reuse; temporary reuse was used to test the future activities. Local and regional stakeholders were involved in the identification of possible reuse opportunities for buildings and open spaces. Currently, the area is an international hub of culture and professional training, with cultural and creative industries, as well as locations for experiential tourism based on food culture. A large public investment (more than € 2 million) was made in the building of museums, in a research centre on fortifications and defence systems, in a Great War remembrance park and in a centre for multimedia production. The *Vauban Fortresses* in Besançon (France) were transformed into a research centre focused on the management of fortified heritage, with a public investment of € 45000. In 2014, the centre recorded 76,379 visitors (+102% since 2011). A company

from the building industry supported the centre. MED-PHARES (ENI CBC MED) aims to initiate the recovery and valorisation of Mediterranean lighthouses and semaphores, thus promoting a common framework for their reuse; this framework will include various forms of project financing.

Cold War MS reuse

The renovation and reuse of former Cold War MS are more difficult because of the high environmental reclamation costs, which are due to the presence of unexploded ordnance and toxic substances used during military activities. Generally, high costs for reclamation are charged to public authorities. Subsequently, areas are leased to the private sector for different forms of adaptive reuse.

In Europe, each country has established different policies. In the absence of an overall decommissioning strategy, the reclamation and reuse of MS has relied only individual interventions. As reported by Venier (2012), some decommissioned military areas have been abandoned, but they have not been reclaimed and are not officially being reused; sometimes, the local population has used these areas for illegal or unofficial activities, as in the case of Pula (Croatia). However, the lack of a participatory process is one of the main reasons for failure.

Common reuse is related to civil construction purposes: former MS close to large urban areas have been transformed into areas containing buildings. Generally, public authorities have established private-public partnerships with building associations. In some cases, large military bases have been transformed into sustainable residential areas, as in the Vauban base in Freiburg (Germany). The latter has become a widely recognised example of a green and smart neighbourhood, developed by a joint action between the municipality and citizen associations. The municipality carried out the urban design phase through a competition, followed by land reclamation and urbanization. Citizen associations promoted the design and implementation of individual building interventions based on energy efficiency as well as the design of public spaces for sustainable mobility (Pollo, 2012). Recently, some initiatives have aimed to transform former military barracks and housing into social housing, as in the city of Mannheim, in Germany, which plans to transform part of a former MS into a pedestrian area with low-cost, high-quality, eco-friendly houses. In the Polish city of Pila (Korczak, 2014), a former military site was the core of a complex regeneration programme to enhance the competitiveness of the town.

Overall, the 27 selected projects required about €56 million from local authorities (35.29%); government (22.14%); EU funds (18.28%); and other (not private) funds (24.29%). Part of the investment was addressed to social assets: part of the military airport was used to build a school and a University, with an increased significance of Piła as an academic town.

Most military sites in Europe have been transformed into cultural and tourist sites. The former Soviet ammunition depot in Komárom (Hungary) was transformed into a Cultural and International Tourism Center that includes a wide range of spaces and services for culture and tourism; moreover, the main attractions are the historic forts, despite their current neglected state. The Spīķeri Block, a former soviet military base in Riga (Latvia), was transformed into the cultural district of the city, thanks to a large public-private partnership and the involvement of private owners of privatised warehouses. Part of the area is still owned by the Municipality of Riga, which has allocated its portion to a night market. An interesting example of tourist reuse can be seen in the former NATO base of Passo Coe, known as Base Tuono. Cooperation between the Military Air Force and the Trentino Historical Museum Foundation, combined with the Province's funding, enabled the transformation of the base into a museum devoted to missile defence systems.



Fig. 1 – Darss Peninsula (Germany). Lighthouse; Germany. Watchtower along Iron Curtain

Recent EU projects that have involved both historical and Cold War MS have focused on a sustainable approach to reuse. The MAPS (URBACT) project aims to highlight military heritage as a key element of sustainable urban strategies, combining both functional and social aspects. The project's objective was to define replicable agendas for participation in urban planning; these agendas can be adapted to the

needs of local communities, promoting environmental quality and economic activities through social architecture programmes. REPAIR (URBACT) targeted the sustainable reuse of MS and the development of new job opportunities; it also aimed to improve the social inclusion and the promotion of a cluster of start-ups in the field of the cultural and creative industries and social housing. All projects required systems to reduce energy and soil consumption and to promote sustainable mobility. The LIFE program financed a variety of individual projects designed to preserve the biodiversity of protected areas that were settled within existing and working MS.

In 2003, IUCN promoted the creation of the Green Belt, an ecological corridor along the historic path of the Iron Curtain. In MS, biodiversity was protected from industrialisation and urban sprawl (although heavily polluted or high-risk areas are closed off to citizens). Most hectares were part of Natura 2000 areas. It was estimated that these areas created 4.4 million jobs and € 405 billion of annual turnover (EU, 2013).

In the late 1980s, the US Government launched a major decommissioning policy. BRAC (Base Realignment and Closure) is the federal process that the Department of Defense has used to reorganize its holdings. In five rounds (1988, 1991, 1993, 1995, and 2005) of BRAC, more than 350 military sites in the US were closed (Lee, 2016), and strategies for their reuse were implemented.

In the 2011 review of the 2005 BRAC program, the Government Accountability Office found that the estimated cost of \$21 billion had grown to \$35 billion, mainly related to the increase in the construction cost in some sites. Despite that, the 2005 BRAC is resulting in an average savings of nearly \$4 billion a year.

BRAC resulted in a slow and lacking process. California has experienced more base closures than any other state, with an economic loss of \$7000 billion and 200,000 lost jobs. In 2007, 39% of the total land involved remained to be disposed. Delays resulted in a lack of 23,000 new housing units that would have generated \$21 billion value in real estate from private investments, and approximately \$276 million/year in tax revenues. The return from base reuse would have been generated \$152 million annually for local governments (EPSYS, 2005).

The most important and expensive activity was reclamation: environmental restoration of the 33 major sites was estimated to cost approximately \$918.14 million. The state of California implemented an

action plan with the EPA (Environmental Protection Agency) to promote reclamation actions and the safe removal of ordnance from MS affected by BRAC. The level of reclamation was related to the intended future use of the site and to the presence of environmental receptors (birds, fish, other wildlife) that could be affected by contaminated soil and water. In only a few cases, land restrictions due to pollution were established; the purpose here was to minimize the obstacles to obtaining funds for reuse (DoD, 2009).

The majority of reuse was in the civil construction sector, especially near large cities. When possible, infrastructures such as airports were adapted for civil purposes. Cidell (2003) indicates that airport areas close to large cities were reused by private companies in the building sector due to the high value of land and citizens' opposition to the negative externalities of airports. Military airports located in relatively proximity to cities were transformed into secondary airports for commercial uses or converted for general or civilian aviation to relieve traffic at large or congested airports and to enhance economic activities and job creation in rural areas. By contrast, naval infrastructure was rarely reused.

Battlefields

Landscapes of mourning and remembrance for past military events can also be understood as military landscapes (Dunkley et al., 2011). Battlefields are an essential core of a variety of tourism megatrends: from cultural and educational tourism, to commemoration of events with re-enactments of battles, to so-called "memory tourism", which focuses on the return of war veterans or their families to the places where they fought, to so-called "dark tourism", i.e., interest in places associated with death or suffering. Different places can be considered as examples of – and as mixtures of – these forms of tourism.

The site of the Battle of Waterloo became a tourist destination just a few months after the battle. Different types of tourists visited the site: people interested in the historical event, combatants and families of dead soldiers, and recreational tourists. Over the centuries, interest in this site increased due to a process of "sacralisation" that reinforced the myth of the historic events that took place there (Seaton, 1999). In 2015, 65,000 spectators participated in the bicentenary re-enactment. The US National Park Service (NPS) estimates that visitors to the Gettysburg national military park spent more than \$66 million in 2012, which is a return of 10 dollars for each dollar invested by NPS. Overall, 3

million annual visitors contribute to (federal, state and local) taxes with more than \$100 million. More than 12,000 Civil War re-enactors (including 300 from other countries) participated in the commemoration of the battle. More than 5,800 people are employed in the tourism industry in Adams County, PA. All Napoleonic battles, Great War and US Civil War battles are re-enacted and commemorated by thousands of people every year. Specialised tour operators and websites organise events around the world, and in 2014, an International Fair of Historical Commemoration Tourism was created.

One important example of “tourism of memories” is the battlefield of Gallipoli, in Turkey, where each year nearly 20,000 among families of ANZAC (Australian and New Zealand Army Corp) soldiers and other tourists arrive. The first travel was organised in 1925 by survived soldiers. Total potential expenditure ranges from €17.4 to €22 million, and the total economic impact is estimated between €34.5 and €43 million (Basarin and Hall, 2008). Waterloo and Gallipoli are also examples of “dark tourism” or “thanatourism”: in the region of Verdun (an important Great World battlefield area), the Douaumont Ossuary is the fifth most visited site in the area and 30,012 people are employed in battlefield tourism (over a total of 82,000 in Lorraine) (Foulk, 2016).



Fig. 2 – Waterloo (Belgium). Re-enactment of the Waterloo Battle

Economic evaluation of military base closures and reuse.

There are both direct and indirect effects brought by a base closure. The obvious direct effect is the immediate loss of employment for those who work on or in support of the military base (unless they are quickly re-assigned elsewhere) (Paloyo et al., 2010). Indirect effects are related on the impact on local and regional economy of the cease of military spending for the functioning and maintenance of the MS, even if the debate about the on the relationship between military spending and economic growth is largely inconclusive for either the sign or the magnitude of these effects (Daddi et al., 2016). Paloyo et al. (2010) and Lee (2016) pointed out the small number of academic studies about base closure consequences. Base closure remains an example of discretionary change in government spending (Lee, 2016). Given the remarkable scale of interventions in MS, it is not surprising that the US-BRAC constitutes a relevant exception, the economic effects of which have been systematically evaluated in different studies using Input-Output (I-O) methodologies. The most adopted is the RIMS II model (Regional Input-Output Model System), which generates estimates of changes in total regional (direct and indirect) employment starting with the change in employment directly caused by the BRAC process (Lee, 2016). The Bureau of Economic Analysis (1997) used an example of the closure of a Kansas City Base and its substitution with a factory to show the potential of the RIMS II for estimating the impacts of changes on earnings and jobs. Asteris et al. (2016) propose an I-O model to evaluate the effects of a UK naval base closure, and they compare the effects of different reutilisation scenarios: the results indicated that the current major importance of base activities (3.5% of local area output and 11,000 jobs) cannot be replaced by the proposed scenarios, as there is a sizeable loss of full-time-equivalent jobs. Moreover, the study shows the flexibility of the input-output methodology to account for downstream effects and to examine a range of outcomes in a consistent way (Asteris et al., 2016).

Despite the prominent use of I-O models in the evaluation of MS closures, Lee (2016) indicates that the RIIMS II model failed to consider opportunity costs or the capacity of the local economy to react to the base closure. The author proposes an econometric approach to evaluate job losses in US countries after the 2005 round of BRAC and proposes a multiplier estimation comparable to those estimated with I-O models. The results show that the economic effects of the 2005 BRAC closures are less severe than projected by the BRAC Commission and estimated with RIIMS II. Indeed, the short-run economic

consequences of BRAC are strictly related to the quantitative and qualitative economic role of the MS in the local area: contractors in the private sector, rather than military and civilian direct jobs, usually generated the strongest local effects.

While I-O or equivalent models provide an estimate of market values, in our review, we have not found any application of a comprehensive Cost-Benefit Analysis (CBA). Indeed, only a CBA framework can provide an estimation of nonmarket values – such as landscape or cultural and environmental values – that could play an important role in post-closure economies. Moreover, methodologies adopted by CBA could be used to manage conflicts between citizens and the Government if visions for the future reuse of MS differ.

Conclusion: what are the lessons for prospective interventions in dismissed MS?

Based on this review of policies adopted and specific cases of reuse, we can identify some indications that policies should be established to dismantle and reuse MS in Italy and Sardinia. Financial and technical obstacles hinder the renovation and/or reuse of MS. One way to surmount these obstacles is to act within a framework of common procedures, as done in European-funded projects. European/International projects have a catalytic effect on funds and promote the efficient spending of funds.

Intangible assets have strong tourist potential: battlefields have relatively low operation costs compared to other tourism products, and international interest in these sites is increasing: re-enactment and “thanatourism” could also be promoted in Sardinia, especially at naval battle commemoration sites and marine archaeology sites related to shipwrecks. Indeed, we found that large-scale interventions are probably economically sustainable only when they are in proximity to densely populated areas (e.g., large cities), where private interests target the building industry or the reuse of certain types of infrastructure (i.e., airports). Peripheral areas could create profitable niche markets that exploit “specific-site” reuse interventions, transforming local peculiarities related to past military vocations into a cultural value (e.g., the *Vauban Network Center* or *Base Tuono*). This strategy could be suitable for small sites, located far from large cities, and even in the presence of other tourist attractions.

Some useful insights are related to procedural aspects. The best reuse experiences started the process from a detailed site assessment, which is the basis for the design of a renovation plan that is integrated with a plan for new uses. Different levels of reclamation could be accepted if they are strictly integrated with planned reuse. These planning procedures required a participatory approach and an overall economic assessment, based on a Cost-Benefit Analysis, to also consider nonmarket values, or at least an Input-Output procedure for market values. Unfortunately, only in a few cases were these tools and measures adopted. A lack of consideration of the economic consequences of MS closure and of alternative reuses could be the reason for project failures, even when MS have already been renovated.

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