

DACIAN FORTRESSES IN ORASTIE MOUNTAINS: MANAGEMENT OF HERITAGE STRUCTURES

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Abstract. *The protection of the built and archaeological heritage is an increasingly debated topic in recent years. In order to protect these valuable historic structures and preserve them for the future, holistic approaches are necessary. These generally involves a wide range of specialists and collaborators, multidisciplinary way of developing conservation strategies, while maintaining their original features.*

However, recent studies highlight the fact that the management of heritage sites and buildings is far more than the simple aesthetic and structural repair. It means acknowledging the role of societies and communities in maintaining the importance of these structures and the risk of environmental factors (climate change challenges or earthquake risk) on their state of conservation and the effect of unauthorized interventions over time.

Therefore, based on the case study of Orastioara, a commune in Hunedoara County, Romania, where 3 UNESCO heritage sites (from a total of 6 UNESCO sites in the area) can be found and numerous monuments of national and local importance, the study is presenting the challenges encountered during the development of the general urban plan of the commune, in relation with all the establishments that conserve Dacian fortresses – sites UNESCO; and also a proposal for the future management plan of the protected sites. Since the heritage structures have been neglected over the years, the paper comprises a general overview of the complexity of the developed conservation strategy, in order to be able to manage the heritage structures while taking the particularities of their context into consideration.

1 INTRODUCTION

UNESCO has established, since 1972, a framework for the protection and conservation of cultural and natural heritage and the world heritage list. To these treaties over the years, some particularly important documents, such as Nara Document of Authenticity, were added. To these, 193 states joined including Romania. What was emphasized by this, was that the cultural heritage exceeds the borders of an area or country, standing out in certain cases by exceptional values. These sites are part of everyone's heritage.

1.1 UNESCO sites in Romania

According to the latest statistics from the UNESCO site, there are 1221 cultural and natural heritage sites, with an unequal distribution across continents. Associated with them are many debates because even if they are under extraordinary protection, their threat continues to be imminent. The concepts always taken into consideration are: protection, preservation of authenticity, integration of heritage in context, management and promotion.

Romania joined the World Heritage Convention in 1990, but the actual implementation began to take place only in 2000, when a legislative document was issued regarding the establishment of measures for the protection of historical monuments belonging to the World Heritage List. In the last years, Romania has elaborated various laws and rules of management of the UNESCO heritage, but surely any procedure can be improved.

By 2017, Romania has registered eight sites: (1) Danube Delta (1991, natural site), (2) Beech and virgin forests in the Carpathians and other regions of Europe (2017, natural site), (3) Moldova's Churches (1993), (4) Horezu Monastery (1993), (5) The villages with fortified churches in Transylvania (1993), (6) The Dacian Fortresses from the Orastie Mountains (1999), (7) The historical centre of Sighisoara (1999) and (8) The wooden churches from Maramureş (1999). Regarding Romania, there is also an indicative list, completed in 2017 by the National Institute of Heritage, which includes 18 cultural sites and a natural one [1]. UNESCO sites in Romania are monitored periodically and are decisive territorial factors when developing new General Urban Plans.

1.2 The Orăştioara commune

In such a situation is the Orăştioara commune, situated in the east of the Hunedoara county. The commune is formed by eight villages: Bucium, Costeşti, Costeşti – Deal, Grădiştea de Munte, Ludeştii de Jos, Ludeştii de Sus, Ocolişu Mic şi Orăştioara de Sus (being the main component village). It has 2079 inhabitants. Within the administrative territory of the commune, there are three UNESCO sites (from a total of 6 Dacian Fortresses from the Orastie Mountains) – that must be integrated and highlighted in the next general urban plan. Their integration implies a proactive management, plan not easy to do in a small commune with a low financial income. In this situation are all the establishments included in this UNESCO Dacian archaeological site.

From this point of view, the realization of the plan should take into account all the six UNESCO sites – Dacian fortresses existing in the area (commune Orăştioara de Sus – Sarmizegetusa Regia site, Costeşti – Cetăţuie site, Costeşti – Blidaru site; commune Săsciori – Căpâlna site; commune Băniţa – Băniţa site; commune Boşorod – Luncani site). This UNESCO landscape covers two counties: Hunedoara and Alba.

The establishments and their archaeological sites are situated in the cultural landscape geographically determined by the Șureanu Mountains and the Orăștie river, therefore in a very powerful context from a historical, architectural, archaeological and natural point of view.

1.3 Cultural framing and significance of the Dacian Fortresses from the Orastiei Mountains

Of all the Romanian UNESCO sites, the Dacian Fortresses from the Orăștie Mountains are the only ones that best preserve and highlight the roots and formative evolution of the Romanian people. The name Dacia was mentioned for the first time during the reign of Emperor Augustus, in the writings of M. Vipsanius Agrippa (*De mensuratio provinciarum*). All ancient authors (Pliny the Elder and Tacitus) considered Dacia to be in the north - Danubian territories (Figure 1a). The Hercynian Forest was considered the northern boundary of the territory inhabited by the Dacians (Julius Caesar, *De bello Gall.*), an opinion sustained as well by Strabon's writings.

Throughout the former Dacian territory, there are indications of a high-level civilization. Between 100 in. - 106 AD, during the classic period of the Geto-Dacian civilization, the Dacian state formed in the Orăștie Mountains, with the capital at Sarmizegetusa Regia (the city from Grădiștea Muncelului). Oltenia, Banat and central Transylvania were part of the Dacian state.

In 82 BC - Burebista's era. The most important leader of the Dacians was Burebista, which was made king of a large territory and "(...) the first and the greatest of the Thracian kings, ruler of all the lands and thither the Danube (IGB, I2 13). in 44 B.C. In his time fortresses were built with squared stone walls in the area of the Șureanu Mountains, approx. 70 fortifications in Dacia (among which: Blidaru, Piatra Roșie, Costești, etc.).

After 44 BC - the kingdom is breaking down. The settlement from Sarmizegetusa becomes more important, and the population's residence move here.

Towards the end of the 1st century, in this region at least four important settlements are mentioned: Costesti, Ceata, Fețele Albe, Sarmizegetusa Regia, numerous scattered households and seasonal settlements from Rudele, Tâmpu and Meleia.

In 88 the Dacians are defeated at Tapea, and in 98 the emperor Traian denounces peace.

101 - 102 is the period of the first Dacian war. This first war resulted in the conquest of the Costești - Cetățuie fortresses, the siege of Blidaru fortress and Fețele Albe.

105 - 106 is the period of the second Dacian war. This second war ends with the burning of the fortresses Piatra Roșie, Blidaru, Cetățuie, Hulpe peak and the settlements in Costești, Ceata, Fețele Albe. The king Decebal commits suicide at Ranisstorum.

106 - 271 is the period of the Roman conquest when the infrastructure of the territory was strengthened, the capital of the new provinces was founded (Colonia Ulpia Traiana Augusta Dacica), Trajan's column was inaugurated in Rome.

At the time of the Roman conquest, a whole series of cities, temples, urban settlements and fortifications were destroyed. The population was mostly relocated to what is now called the Hateg Depression, where a new city - Sarmizegetusa (Ulpia Traiana) was built. Mostly on the territory occupied by the Dacians, the Roman army left a population of shepherds and subsistence farmers. Roman garrisons were installed at the most important points. After the withdrawal of the Roman administration, this area was characterized by a rather rural population.

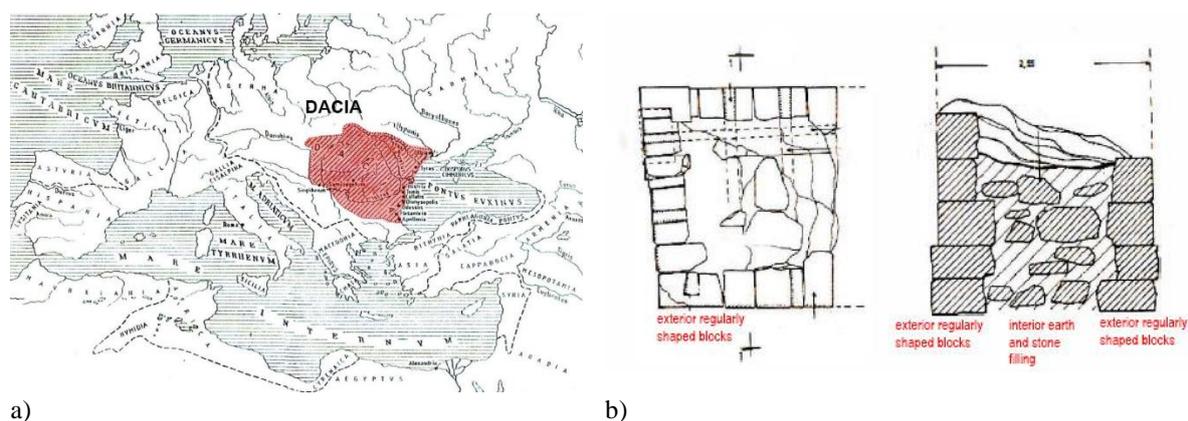


Figure 1: a) Map of Dacia, under king Burebista; b) Murus Dacicus (after [2])

Following this short historical thread, it was observed that the fortresses from Orăștie Mountains were built to defend the territory against the Romans. Based on existing documents and existing research (which is an ongoing process), the following conclusions can be drawn about the character and role of each fortress.

- *Costești – Cetățuie* and its civil settlement. It's the oldest fortress discovered in Orăștie Mountains, dated by the researchers between 2nd century B.C. and the beginning of the following century.
- *Sarmizegetusa Regia*. It became the capital of the Dacian territory, but there is also a hypothesis, according to which, in the same place, before the development of Sarmizegetusa, in the first half of the I century B.C, a cult centre existed, named The Holy Mountain of the Dacians (Kogaionon).
- *Costești – Blidaru and Luncani – Piatra Roșie* were considered to be residences of high military leaders, built in a Hellenistic style (like Costești – Cetățuie).
- *Bănița and Capâlna* – “(...) were annexed to the fortress ensemble from Orăștie Mountains, as an outpost of the defensive system of the Dacian capital.” [2].

These fortresses with stone enclosure walls, represented at the end and of the first Christian era, one of the greatest and most important achievements of the military architecture, outside the Roman Empire.

2 THE CONTEXT OF THE ORĂȘTIEI MOUNTAINS AND THE LOCATION ARGUMENTS OF THE FORTRESS IN THIS AREA

This densification of the fortresses and settlements in this area is due to the peculiarities of the Șureanu Mountains, more specific the Orăștie Mountains. They are in the southern part of the Mureș Pass and are formed of medium mountains, forested, with narrow valleys, branched and twisted (Figure 2). This whole framework made the region difficult to reach, and therefore provided the cities and settlements an additional defence. At the same time, the Șureanu Mountains have a depressing border with valleys and peaks favourable for living and the best agricultural lands and communication channels. The villages from the valleys, lived in close collaboration with the mountain settlements, between them being a permanent exchange and valorisation of resources.

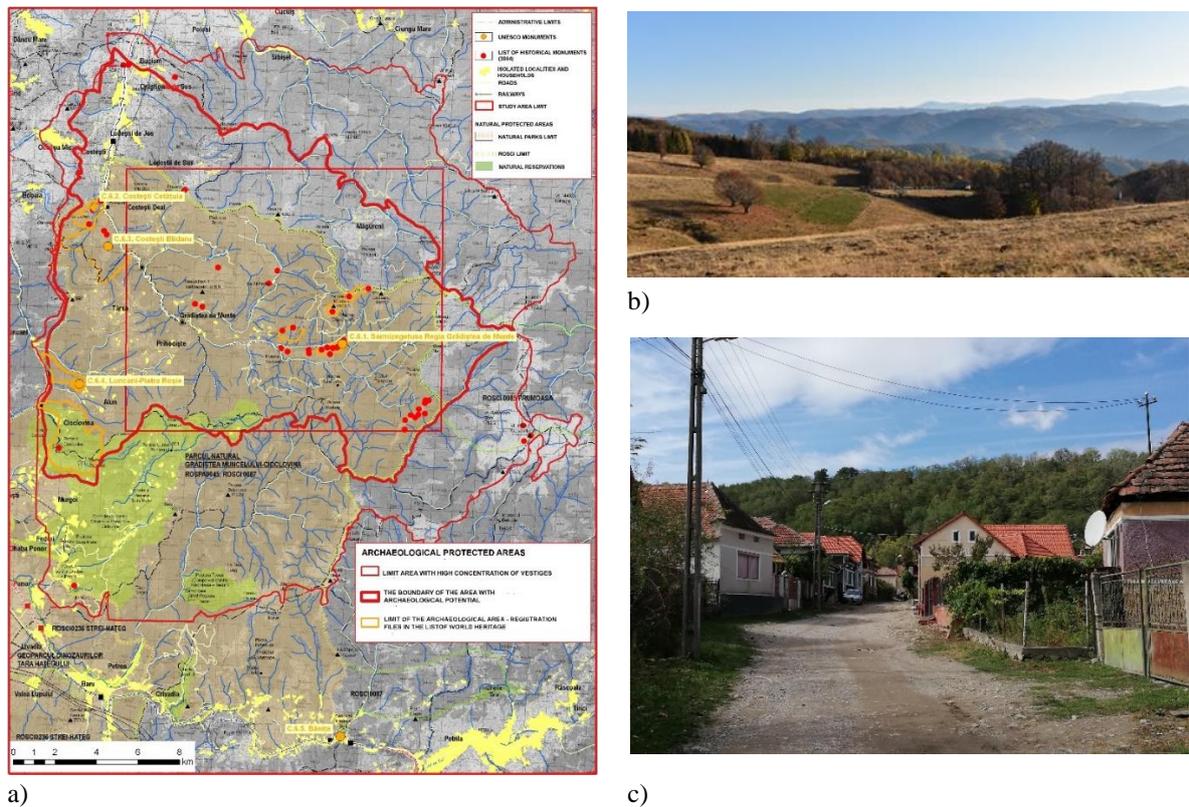


Figure 2: a) Present urbanistic context and UNESCO site position [3]; b) The Orăștie Mountains – the landscape context of Dacian fortresses (© Gabriela Pașcu); c) Orăștioara de Sus village (© Gabriela Pașcu).

Apart from the geographical features of the area, the main argument for the development of Dacian settlements is the presence of iron deposits, the only place of this type known to the Dacians. Other arguments would be the temperatures, which are 1 - 3 degrees higher, compared to the other points of the mountains, easy connections through the hydrographic network with the other areas and the arrangement of the valleys, which allowed simultaneous access to the northern lanes and communication paths [4].

These fortresses were well organized. The main access in the region was dominated and controlled by the main habitat, Sarmizegetusa, located on the top of Grădiștea Hill (part of the Godeanu massif) at 1200 m altitude. From these, a series of fortresses and defence towers continued upstream Apa Grădiștei river. Of these, the most important were the Costești Cetățuie and Costești – Blidaru fortresses. The northeast access was defended by Cugir and Grădiștea de Munte (Vârful lui Hulpe fortification). The fortress Capâlna was also a part of the group being situated in Sebeș Valley. From the south-west, a possible attack was stopped and spot out from the Cioclovina – Ponorici fortification; and from the south-east by Luncani – Piatra Roșie fortress. Another pass was possible through the Vâlcan and Merișor, but these routes were monitored by the Bănița fortress.

The only way left without enough defence to Sarmizegetusa – Grădiștea de Munte was a

very difficult one (downstream the valley of Jiu river) and for this reason, it has been used by the Roman army in the 101 – 102 war. The connection between the fortresses was assured by a very complex network of surveillance towers and residence points. All this system of approximately 150 km², was built to protect the Dacian Kingdom centre of power – Sarmizegetusa Regia.

2.1 The historical – urban, architectural and structural features of the sites

The site *Grădiştea Muncelului – Sarmizegetusa Regia* (village Grădiştea de Munte) is today a site is the property of the Romanian state, through the national management of forests and is part of the administrative territory of Oraşioara de Sus settlement (Figure 3).

The first information about the ruins from Grădiştea de Munte date from the beginning of the 19th century, when the Austrian administration sent representatives to investigate the phenomenon of the emergence of precious metal treasures in the area. The imperial envoys recorded in their official reports the existence of the fortification and of several stone constructions, besides the numerous pieces discovered. During the 19th century, Grădiştea de Munte came to the attention of scholars and antique collectors. Some of them also dug at different points of the ancient settlement. The first systematic excavations began after World War I, in 1922-1924, when the professor D. M. Teodorescu investigated the fortification and the large circular temple. In 1950 he started the archaeological research project of the site, under the leadership of Professor Constantin Daicoviciu. Since then, fortification elements, cult buildings, metallurgical workshops, water collection and distribution facilities, houses and their annexes have been brought to light [5].

The site can be recognized as an ancient city due to its important religious and defensive character. At the beginning, it had a symbolic and religious value, but in time it grew to have an important economic and defensive role. It is approximated by researchers to have had about 5000 inhabitants. Concerning the urban and architectural characteristics “[...] terraces flourishing workshops, imposing and monumental sanctuaries, strong and domineering walls rising out of the rock of the mountains, all that looked very imposing at the moment of Roman conquest” [2]. The urban structure was coherent and developed for emphasizing the important constructions of the settlement, without conflicting with the natural characteristics of the site. All the edifices were constructed on artificial terraces (approximately 100) on almost 6 km distance. The defensive walls were hundreds of meters long and 10-12 m high and were built in murus Dacicus technique – “double regularly-shaped blocks walls with emplecton” [2].

In the present the site is composed of 1. the Dacian fortress, 2. the sacred area, 3. circular sanctuaries with a central alter-chamber; 4. the cult altar; 5. circular sanctuaries; 6. rectangular sanctuaries of the alignment type with limestone plinths and andesite plinths; 7. the civil settlements; the ancient road system and water adductions.



a) b)
Figure 3: a) Archaeological site Grădiştea Muncelului; b) Aerial image of the site Grădiştea Muncelului (after [2])

The *Costeşti Cetăţuie fortress* is situated in the Orastioara de Sus settlement, in the Costesti village, on the left bank of the Apa Orasului river. It had the role of controlling the direct route to the capital of the Dacian Kingdom, Sarmizegetusa Regia (Figure 4a).

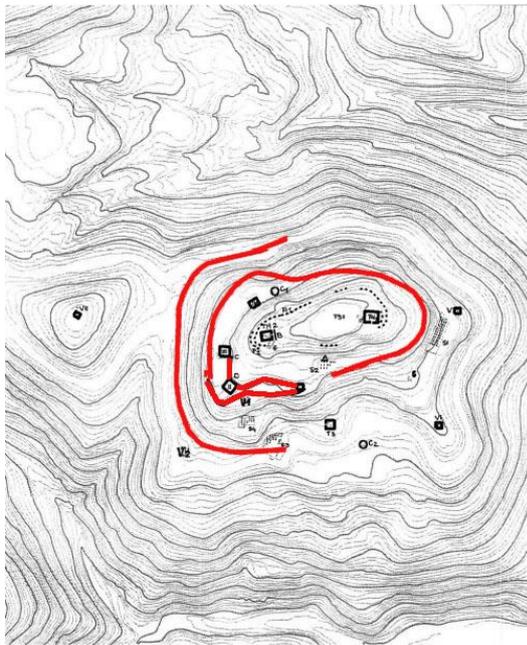
This fortress illustrates the evolution of fortifications made by earthen walls, palisades and ditches, to the fortifications with double stone walls faced enclosures of Hellenistic inspiration.

The superior plateau was protected by an earth wall and was dominated by two massive dwelling towers (palatial towers). The access to the dwelling towers was done through a monumental stairway (3.20 m wide). The site also includes four sanctuaries.

The *Costesti Blidaru fortress* is situated on a hill with a 705 m altitude with a large view to the valley of the Mureş river and Sarmizegetusa Regia. From an archaeological point of view, it has a geometrical composition organised around a central element – the dwelling tower (Figure 4b).

The *Luncani – Piatra Roşie fortress* is situated in the Luncani village, Bosorod commune, on the top of the hill bearing the same name. The structure of the defensive elements is of the Hellenistic model and it has inside dimensions of 4.52x5 m and 3.12x3.12 m. The site is composed by the fortifications, five towers, three gates and several edifices (Figure 5a).

The *Băniţa fortress* is situated in the Hunedoara county, in the commune having the same name. The fortress was built on a raised land called “Dealul Bolii” or “Piatra Cetatii” with a height of 904 m. The fortress is almost inaccessible. This fortification is composed of a series of military construction: enclosure walls, towers, battle platforms, defence banks, etc., built with stone, wood or earth. The first fortification is the 115 m long wall, 2 m thick, using the murus Dacicus technique. The research on this fortress demonstrates its long existence, even without a dominant civilian character (Figure 5b).

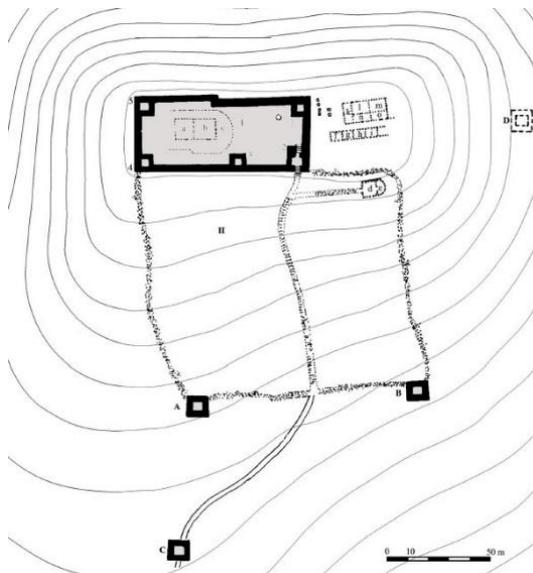


a)

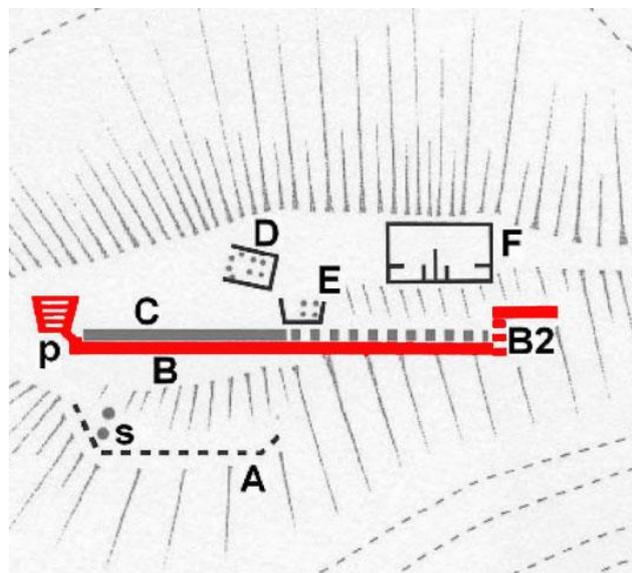


b)

Figure 4: a) Plan of the archeological site Costești Cetățuie; b) Plan of the archeological site Costești Blidaru (after [2])



a)



b)

Figure 5: a) Plan of archeological site Luncani – Piatra Roșie; b) Plan of archeological site Bănița (after [2])

The *Căpâlna fortress* is situated in the valley of the Sebeș River (Căpâlna village) – Săsciori commune, department Alba. It has an isolated position, far from the other Dacian fortresses. The archaeological studies began in the inter-war period. For a good functioning of the fortress, she was placed on the top of Dealul Cetății. For this, terracing works were done on the cliff. This fortress had the role of blocking any access from the east towards Sarmizegetusa Regia.

The plan of the fortification is composed of a ditch, two banks, a dwelling tower and an enclosure (Figure 6).

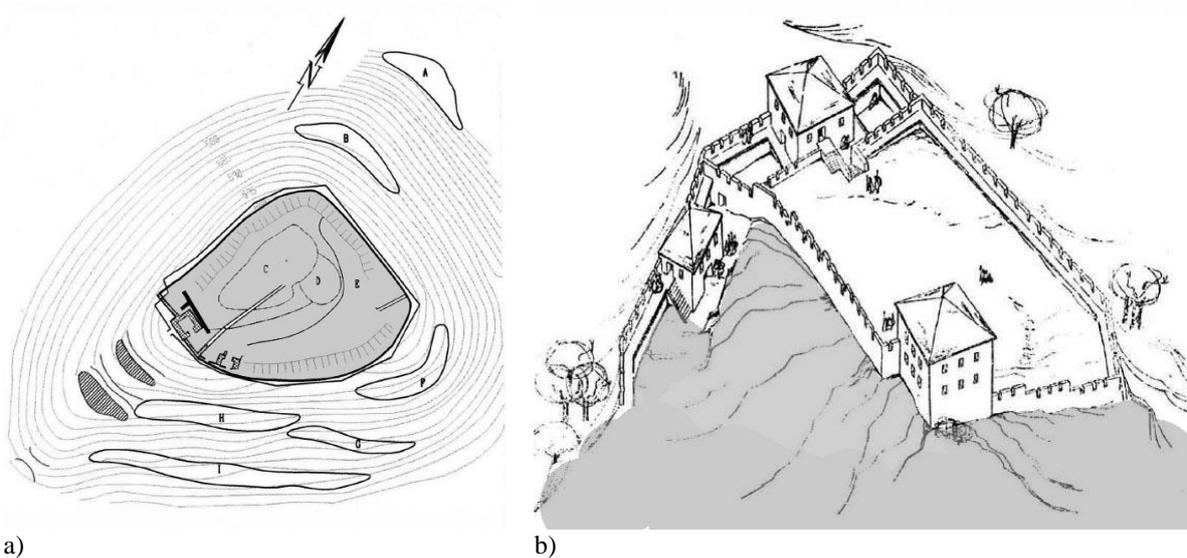


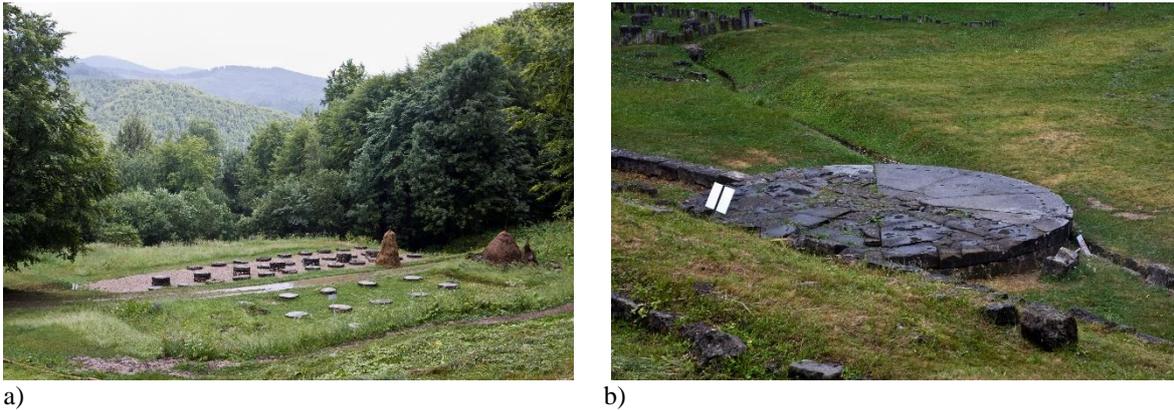
Figure 6: a) Plan of archaeological site Căpâlna.; b) Photographic restitution of Căpâlna site (after [2])

2.2. Current context and site problems

Studies and fieldwork concerning the heritage sites in the Orastie mountains, highlight that there are a series of factors which currently affect the integrity of the sites, but are not brought forward in the various reports concerning the state of conservation of the sites. Besides meteorological factors which are leading to the erosion of the soil around the sites, there are a series of factors related to the general management which ultimately lead to the degradation of the archaeological heritage. Animal grazing and hay growing in the site area (Figure 7a), illegal archaeological diggings, theft, and unsupervised tourism leading to the vandalization of the sites (Figure 7b) and have the most important impact on their state of conservation [1]. Vitalie Barca is also highlighting the fact that these sites are in a bad state of conservation mainly due to the lack of any short or long-term management plan and that it is important to find solutions soon in order to be able to preserve their value for the future [6].

Studies in recent years concerning the management of heritage structures highlight that heritage management must be approached from a multi and interdisciplinary point of view, thus highlighting its holistic nature [7]. Still, they also bring forward that heritage management is not only connected to the preservation of the tangible and intangible value of the site but should also involve local communities [8]. The involvement of local communities and various stakeholders is also highly recommended by the UNESCO Operational Guidelines for the Implementation of the World Heritage Convention [9].

Therefore, it is of utmost importance to develop a comprehensive management plan for the heritage sites from the Orastie mountains sites which could bring forward the significant historical and cultural value of the area and highlight the importance of the sites in the history of Dacian architecture. In the same time, they should ensure the protection of the sites on the short, medium and long-term and be able to evolve and adapt according to continuous studies and investigations of the state of conservation of the sites and current and future threats.



a) b)
Figure 7: Signs of poor management of the heritage sites (a) Haystacks near the archaeological structures; b) vandalism of the heritage site)

3 MANAGEMENT PROPOSAL

The management plan imagined for these UNESCO sites aims to safeguard the outstanding universal value of the archaeological sites, their authenticity and integrity (Table 1). It must be planned both for short term (2 – 5 years) and long term (5 – 30 years). The management plan should be an agreement between all the specialists implicated in the general urban plan of Orăştioara de Sus, Boşorod, Băniţa and Săsciori; and in the management plan of the UNESCO sites. Among them are: Romanian Ministry of Culture, local administrations (Orăştioara de Sus, Boşorod, Băniţa and Săsciori), Faculty of Architecture and Urban Planning Timişoara, County Council Hunedoara and Alba, National Heritage Institute, the administration of Natural Park Grădiştea Muncelului – Cioclovina, Museum of Dacian and Roman Civilisation Deva).

The purpose of this management plan for the Dacian Fortresses from the Orăştie Mountains has the purpose of enhancement and integrity conservation. The objectives proposed for the achievement of the purpose must be clearly formulated, so that they can be checked. For every objective, measures must be specified, and their implementation monitored.

Therefore, the following objectives are considered:

1. *Management and identification.*

(The local communities are supporting the safeguarding and further development of the world heritage, but need to be informed about the urban and architectural actions accepted in these parameters)

2. *Protection and conservation of sites and landscapes integrity.*

(The Dacian fortresses are preserved as an integral historical complex located in the cultural landscape of Orăştie Mountains – that must be preserved as well)

3. *Sustainable use.*

(All sites have problems of accessibility, maintenance, minimal weather protection and accessible information's about their extraordinary value. Solving them could mean that the UNESCO site can become an engine for development and improved quality of life)

The basically principals applied are preventive protection, best use of existing laws and responsibilities, participation of the population, sustainable use of the sites, raising awareness and acceptance with respect [10].

Table 1: Overview of the management plan

	OBJECTIVES	MEASURES 2 – 5 years	TASKS	MEASURES 5–30 years
Actors	1.MANAGEMENT AND IDENTIFICATION	1.1 Establishment of a management structure. 1.2 Establishment of effective communication. 1.3 Establishment of a monitoring team. 1.4 Providing information, representing and communicating.	<ul style="list-style-type: none"> • Overall responsibility and coordination. • Financing. • Monitoring and updating. • Periodic inform of all the actors. • Activation of volunteers for monitoring. • Creation of a site. 	Overall responsibility and coordination. Financing. Monitoring and updating. Periodic inform of all the actors. Activation of volunteers for monitoring.
Monuments , sites and landscapes	2.PROTECTION AND CONSERVATION OF SITES AND LANDSCAPE INTEGRITY	2.1 Coordinating and updating. 2.2 Restauration and maintenance. 2.3. Establishment of protection zones and protected context. 2.4. Establishment of a regulation for architectural and landscape intervention in the protected context.	<ul style="list-style-type: none"> • Monitoring of restauration and action maintenance. • Preparation of a written regulation. • Monitoring of the regulation implementation. • Witness photos • Inspection 	Coordinating and updating. Maintenance.
Function and use	3.SUSTAINABLE USE	3.1 Assurance of a better accessibility. 3.2 Tourism organisation.	<ul style="list-style-type: none"> • Infrastructure improvement. • Marked touristic routes and information panels. • Day tourism. • Overnight stays. • Guided tours. 	Day tourism. Overnight stays. Guided tours.

5 CONCLUSIONS

The purpose of this article is to point out the history and the importance of Dacian fortresses – UNESCO sites from Orăştie Mountains. To achieve this purpose the importance of these sites at national and international level, their historical evolution and urban, architectural and structural characteristics were highlighted. Based on this information and research, a management scheme was proposed with three major pillars (management and identification;

protection and conservation; use) with clear tasks to monitor for goals achievements. This plan was designed to fully respect the current UNESCO principles and guidelines concerning the protection of valuable heritage structures while also taking current and future threads to these structures into consideration.

The research and the work for the urban general plan and management plan are on-going, but in the future their will follow and maintain the scheme presented above. This management scheme aims to transform these sites of extraordinary value into engines for community development in which they are located, through a sustainable tourism and not aggressive one, because in the present, their enhancement is minimal compared to their importance.

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