

Measures for the regulation of surfaces outside of built-up areas. Case study: Orăștioara de Sus, Hunedoara County

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ABSTRACT

The present article studies the provisions of the projects and programs for the extra-urban area of Orăștioara de Sus, Hunedoara county, to draw up the Local Urbanisation Regulation related to the General Urbanistic Plan of the commune. The research approach identifies and delimits from the topographic point of view the space under investigation, from the point of view of the relation between the natural (relief, vegetation, fauna) and the anthropic (rich architectural, archaeological and historical heritage), gathered in a common, unifying concept, of the cultural landscape. After analysing the similarities and differences existing in these documents, the measures that can be included in the urban plan through their regulatory character are concluded.

The regulation and organisation of the space through the General Urban Plan has the purpose of identifying, harmonising and highlighting the elements of the natural and cultural heritage, together with the anthropic potential of the area, to ensure the full harmony of man with nature.

Keywords: natural area, monument, heritage, biodiversity, accessibility, local community, case study.

I. INTRODUCTION

Orastioara de Sus commune (see Fig. 1) is in the process of developing a General Urban Plan (hereinafter referred to as PUG) with a regulatory character, which will represent the main spatial planning instrument of the territory of the aforementioned commune. This PUG represents the legal basis for carrying out the development actions and programs whose imprint is manifested in the area belonging to the commune.

The elaboration of a PUG represents the generation of an accumulation of provisions in the medium and long term, which concerns the delimitation of the areas in which development, contraction or regeneration actions are expected, with multiple goals subordinated to the concept of sustainable development. These areas are delimited by clear cadastral boundaries and include homogeneous areas in terms of functions, which require the implementation of integrated operations characterised according to the situation.

The territory of any locality is divided into two clearly defined areas, namely intra-urban and extra-urban. In the case of Orastioara de Sus commune, the territory within the intra-urban

area of the locality has been studied in previous work, therefore it will not be the subject of this study, and the paper will focus on the territory located in the extra-urban of the locality.

Orăştioara de Sus commune is located in the eastern part of Hunedoara county, in an area “loaded with history” and tourist attractions, among which we find several Roman castles, fortifications and Dacian fortresses as well as some archaeological sites. The commune contains the villages Bucium, Costeşti, Costeşti Deal, Grădiştea de Munte, Ludeştii de Jos, Ludeştii de Sus, Ocolişul Mic and Orăştioara de Sus, counting a population of 2,079 persons, according to the 2011 census.

Located at the foot of the Şurianului mountains and embedded in the core of the protected areas, Natura 2000, of which the National Park Grădiştea Muncelului-Cioclovina (hereinafter referred to as PNGM-C), the commune creates a specific identity by settling it inside the mountains, also grazed by the transition of Gradiştea river outlining a varied relief of ridges with higher heights to the East area and lower to the Western area, such as mountains, hills and different types of meadows. The component that stands out due to the complexity of the erosion



Fig. 1. Orastioara de Sus - 17.04.2019

processes represented by the hydrographic network has built this relief through valleys and interfluviums that stand as testimony to the origin of the territory.

PNGM-C has a rich hydrographic network, being formed of both surface waters such as rivers and valleys and groundwater, these being collected by the Grădiştea river and the Strei river, both of which are tributaries of the Mureş river. Simultaneously, the park has a specific flora and vegetation, varied, and outlines the physical-chemical and climatic conditions, which develop closely.

Due to the existing conditions and the non-specific factors of some common localities, such as the existing historical building elements (Roman castles, fortifications and Dacian fortresses) or the Natura 2000 protected areas (PNGM-C), several problems have arisen that are not specific to some ordinary settlements. It would be the overlap of protected areas with individual properties, the definition of the boundaries of the protected areas or their overlap with private properties and the development and maintenance of these protected areas without restricting the access of tourists. At the same time, we also have the frequent problems of such localities, such as the clear definition of intra-urban and extra-urban areas, especially in the case of dispersed villages, the overlapping of arrangements with privately owned land or the overlapping of lands owned by the local administration with land privately owned [1].

All these problems lead to the need to find viable and adaptable solutions to the current situation without creating a new set of problems that will put local administration or the inhabitants of the area in difficulty.

II. METHODS

In order to avoid “trial and error” interventions, we considered that the most appropriate and efficient research method would be the descriptive one. Thus we can extract a series of information and results from other situations by making sure of the similarities from the beginning of the study. For this, it was decided to analyse a series of documents that have the basis of documentation both in the area stud-

ied by us and in the international space. These documents hereafter referred to as case studies refer to situations similar or identical to the one in which we are present and propose a series of resolutions of the identified problems. These resolutions can be applied or at least adapted to the considered situations.

III. MEASURES CONCERNING THE STUDIED AREA

The present chapter deals with the measures that are already foreseen for the studied area, both from the point of view of the natural elements (of the PNGM-C, spread over several communes, as well as the pastoral arrangements with impact in the area), as well as of the international conventions governing valuable anthropic ensembles (UNESCO heritage) (Fig. 2). Regarding the location of the site studied in the national context, by its particularities it is distinguished from other protected natural areas, even from those included in the same typology, its particularities being accentuated by the PNGM-C management plan which aims to regulate the measures that can be adopted and implemented throughout this area.

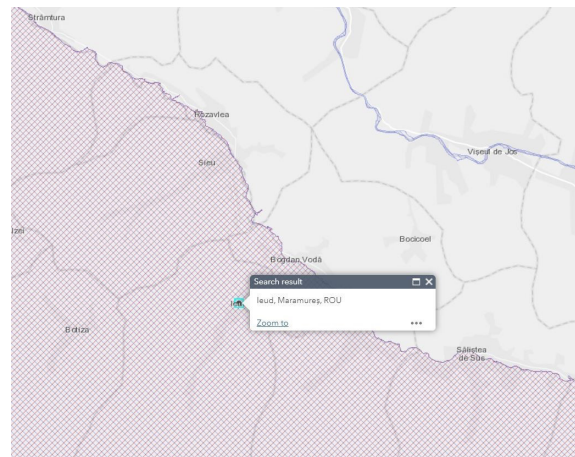


Fig. 2. leud Deal - Natura 2000 and heritage site positioning

From the perspective of the UNESCO objectives that stand out by overlapping with Natura 2000 areas, the only element of similarity is the wooden Church of the Nativity of the Mother of God” from leud Deal, Maramureş. In relation to this, the particular element is represented by the fact that the church is included in the compact

urban area of the locality, on which regulations are applied for the area of development of human activities, this area not being regulated by measures proposed in management plans [2].

III.1. The management plan of the Grădiştea Muncelului-Cioclovina Natural Park

In order to conserve and protect habitats of community interest, several general management regulations have been laid down. Thus, the aim is to transpose on a map the existing habitats, their improvement and preservation, as well as the surveillance of the populations. Regarding the cuts from the forest habitats, the construction of forest roads in these areas that have priority community interest appears their prohibition, as well as the prohibition of some works to eliminate the surplus of water. Therefore, the aim is to restore the natural and mixed elements using species specific to the area, the norm of harvesting some plants, fruits or mushrooms from the areas of community interest and at the same time the removal of the building materials is prohibited.

Maintaining control of livestock in these areas and regulating grazing are essential measures to avoid the destruction and deterioration of existing pastures. It also requires the controlled use of chemical amendments and fertilisers as well as deterioration of vegetation through burning.

Particular or specific measures are intended to preserve and restore the favourable conservation status of each habitat according to its ecological characteristics.

Regarding the caves “Cioclovina, Drycata, Şura Mare, Călianu”, public access is prohibited (see Fig. 3). The visits during the maternity interval of the bats have strict prohibitions, except for the actions of the chiropterology researchers. Existing protection systems must be protected and their damage prevented, as well as leaving organic matter or waste in the cave, the use of various objects that generate fire, and any movement within the caves will be made without exceeding the limit of the existing path.

Suppose we were talking about species-rich pastures with *Nardus*. In that case, there are regulations regarding the common pasture to

prevent overgrowth which can cause the degradation or reduction of the potential of these grasslands or even the change with other plant typologies; all regulations will allow the preservation and arrangement of the existing habitat. It is also prohibited to use certain Ca-based substances, which can cause degradation or even extinction of the species “*Nardus stricta*”.



Fig. 3. Grădiştea Muncelului-Cioclovina Natural Park - 2019 - author Mircea Bezerghianu

The regulations established for the mountain meadows revisit the temporary overgrowth, having as main objective the preservation of the meadows and the maintenance work such as the cost will be executed at the end of July when in most species they have been fruitful. Certain specific measures have been established regarding the sensitivity of the fauna and flora specimens, both general and particular to each species. It aims to monitor the already existing species, but also preserve and improve them and prohibit the disturbance and help of the environment in which mammals live or the exercise on the forest roads of sports with motorcycles or ATVs or other field machines. It is forbidden to extract from the protected area some plant species in order not to cause the disappearance of certain species for their conservation and preservation.

The hunting actions will be regulated for certain mammal specimens, the approach of strategies of elimination of poaching and at the same time, the training and training of the young will be followed to protect the species in the habitats. Controlled use of harmful substances and chemical fertilisers to avoid the loss of valuable species [1].

III.2. Pastoral arrangements within Orastioara de Sus

We can argue that grasslands outline functions of great importance both in rural development and in the environment. The grasslands are the ones that reflect the functions by conserving biodiversity, improving the soil but also their fertility, offering symbiosis links and confirming a hydrological balance at the soil level. It also represents a shield against landslides, prevents floods, improves the quality of the landscape but also gives importance to the cultural heritage.

Regarding the conduct of the activities under normal conditions, it is recommended to carry out different investments and interventions on the sheepfolds, the wells drilling but also the construction of troughs to adapt the animals. In certain situations where drinking water is lacking, certain wells will be executed, which can be used manually or mechanically. The spread of the grasslands is varied, meeting on large varieties of relief, thus outlining a crack in the national wealth, thus supporting and supporting an important segment of the economy [3].

III.3. Measures in accordance with UNESCO conventions

According to the UNESCO convention, the responsibility for protecting, conserving and harnessing effectively and sustainably the cultural and natural heritage rests primarily with each State party. Also, as a general obligation in order to achieve the above-mentioned objectives to the Member States of the Convention, it is their obligation to identify and delimit the elements of natural or cultural heritage, as defined in the Convention.

In order to ensure the effectiveness of the measures initiated and to carry out the national but also the community's wish to protect and conserve the cultural or natural heritage, each state must take a series of measures.

In a first phase, the state must adopt a general policy aiming to provide cultural and natural heritage with a meaning in the life of the community and to integrate the protection of that heritage into comprehensive planning programs.

Secondly, States have an obligation to establish in their territories one or more services of protection, conservation and promotion of cultural or natural heritage, where they do not exist.

In other news, States have an obligation to start and develop scientific and technical research and studies and develop such methods of operation to counter any dangers or threats to their natural or cultural heritage.

Also in pursuit of the fulfilment of this wish, the state authorities, parties to the convention are required to take the most appropriate legal, scientific, technical, administrative and financial measures, necessary to identify, protect the conservation, promote and restore this heritage if necessary.

Finally, it should be mentioned the responsibility of the signatory States to encourage and support the establishment and/or development of National or Regional centres for training in the field of protection, conservation and promotion of their natural and cultural heritage but also the promotion of scientific research in this field. The signatory states of the convention are also obliged to support the fund to protect the world cultural and natural heritage, called the "World Heritage Fund." In this respect, Member States agree to pay, on a regular basis, every two years to the World Heritage Fund, a contribution in the form of a single percentage applicable to all States. Failure to do so, or failure to fulfil this obligation, may result in the loss of the right to be elected as a member of the World Heritage Committee.

Along the same lines, States are working to support International campaigns to raise funds for the World Heritage budget.

Each state participating in the Convention shall as soon as possible submit to the World Heritage Committee an inventory of the properties located in its territory which, in its opinion, may be classified in the category of heritage assets and may thus be included in the World Heritage List, as it is—provided for in Article 11, paragraph 2, of the Convention. In any case, the list submitted by the States should not be considered exhaustive.

In order to have access to the international instruments for the protection and conservation of

the elements of natural or cultural heritage, the convention must be ratified by the States that have acceded to it, by means of an instrument of ratification in accordance with their constitutional procedures. The instruments of ratification shall be communicated to the institution of the Director-General of the Scientific and Cultural Educational Organization of the United Nations. Also, as a general obligation, the members of the Convention must carry out all due diligence by their own means and in particular through educational programs to strengthen the appreciation and respect of their citizens with regard to the National and Cultural heritage as defined in Articles 1 and 2 of the Convention.

As signatory parties to the convention, States must prepare and submit to the general conference of the United Nations Scientific and Cultural Educational Organization periodical information in the form of reports containing the legislative and administrative measures adopted and all actions taken to implement the convention together, with all the details of the practice experience and the special cases encountered in this field.

III.4. The management plan of the Plitvice Lakes National Park

III.4.1. Location

The park (see Fig. 4) is located in the inland mountain region of Croatia (about 60 km in a straight line from the sea), between the high mountains of Mala Kapela in the southwest and Lička Plješivica in the northeast. Administratively, the park falls into two counties: Lika-Senj (90.7%) and Karlovac (9.3%).



Fig. 4. Plitvice Lakes National Park - 2018 [4]

III.4.2. General purpose and classification

Based on the biological, geomorphological, social-economic and tourist evaluation of the park, a series of measures had to be taken to conserve the natural resources and cultural heritage existing here. Thus it was considered necessary to create this management plan valid for ten years detailing the activities planned in different areas and coordinating action plans specific to each area. Implementation of management policies that emphasise transparency and openness of authorities to the public is an attempt to increase external involvement, educate the public and create new public-private partnerships to help develop the area, monitor it and the necessary scientific research.

III.4.3. Objective dimensions

The protected area occupies over 286.95 sqkm, the system of lakes being composed of 16 lakes which were given names and a series of several unnamed lakes. The 12 lakes that make up the Upper Lakes are Prošćansko jezero, Ciginovac, Okrugljak, Batinovac, Veliko jezero, Malo jezero, Vir, Galovac, Milino jezero, Gradinsko jezero, Burgeti and Kozjak; and the four lakes that make up the Lower Lakes are: Milanovac, Gavanovac, Kaluđerovac and Novakovića Brod.

III.4.4. Biodiversity

Plitvice Lakes National Park is at the southern end of the slopes of the Mala Kapela chain, at elevations between 369 and 1279 meters. This is an area of alpine topography that has a considerable impact on climatic phenomena and, consequently, on the vegetation of the area. Thus the park is divided into areas where different species of vegetation predominate, each area having its own specific.

The biodiversity of aquatic ecosystems is exceptionally valuable. Three significant types of Natura 2000 habitats are represented in the national park's aquatic ecosystems, each comprising a series of fauna and vegetation species specific to them.

III.4.5. Local community

The settlements that were partially or entirely in the National Park the Plitvice lakes have a

population of about 1300 people at present, while in the 1990s the number of people was almost double, the most important cause of this population decline being war. The park administration has long recognised that there is a need to improve cooperation with the local community to increase sustainable tourism development opportunities. They want to develop cooperation on the part of traditional activities in the area, starting from the dwelling, up to the production of local foods and breeding of animal species specific to the area and they want the integration of the locals in the tourist activities in the form of guides.

III.4.6. Tourism and recreation facilities

The development of the current system of visitors to the National Park began at the end of the 19th century and was completed in the 1930s. With minor adjustments, the trails and small bridges continue to respect what was originally built. Visitors can travel in the park individually and in groups, either by hiking or by a combination of means of transport, such as guided tours, guided boat tours, or solo boat trips on Lake Kozjak.

The current management plan aims to maintain the current facilities and create a series of new facilities without any visible intervention in the natural environment. Thus, a series of guidelines are proposed: qualitative increase of tours for tourists without diminishing the level of impact on natural areas, awareness of the value of lakes by employees, residents and tourists and increasing the quality of services and accommodations using local and regional resources.

III.4.7. The objectives of the management plan

The objectives of the management plan have been divided into several levels meant to differentiate and help organise the structure of this plan. Each of these levels was also subdivided to provide more precise directions for each of the proposed objectives. As well as general terms, the management plan aims to develop measures designed to help conserve natural resources and cultural heritage existing here.

III.4.8. Measures taken

The first step was to create a series of action plans based on the levels proposed in the objectives part in order to be able to control all aspects of this management plan.

- Biodiversity Action Plan - proposes the conservation and monitoring of the entire park system and the existing routes and those to be built respectively.
- Marketing Action Plan - proposes to improve the infrastructure, to adapt the routes to be used by people with disabilities, to introduce eco-friendly technology and to develop tourist centres.
- Action Plan for Heritage - proposes the creation of a study for the protection and revitalisation of heritage areas, together with the analysis of the localities that are part of this park to identify the possible objectives that can be introduced in the general process.
- The action plan for land ownership problems - proposes the creation of a cadastral program specific to this area and the measurement of all the plots that make up this area for its clear definition and integrity.
- Action plan for the local community - proposes regular meetings for educational and research purposes. This plan aims to ensure transparency towards the local community and its inclusion in the management part of the park [5].

III.5. The Upper German-Raetian Limes management plan (Obergermanisch-Raetischer Limes - ORL)

III.5.1. Location

Obergermanisch-Raetischer Limes represents the furthest boundary of Roman expansion in Germany and extends from the Rhine to the north of Koblenz, through the Westerwald and Taunus forests, Wetterau, along the Main River, through the Odenwald and Swabian-Franconian Jura forests, encompassing the fertile lands of the Nördlinger rivers and ends at the Danube, west of Kelheim (see Fig. 5). On his route through present-day Germany, the Obergermanisch-Raetischer Limes passes through several different natural and cultural landscapes.



Fig. 5. Upper German-Raetian Limes - 2019 - unknown author [6]

III.5.2 Purpose and general classification

This management plan aims to create a basis for the maintenance, preservation, research and development of this archaeological monument and to identify different methods to implement these plans in the individual lands of Germany.

III.5.3 Dimensions of the objective

The Upper Germanic-Rhaetian Limes is a 550-kilometre long section of the former outer border of the Roman Empire between the Rhine and Danube rivers. The central area of the ORL covers an area of approximately 36.5 sqkm, while the safety area has approximately 246 sqkm.

III.5.4 Historical and archaeological objectives

Along this border, besides the typical ORL structures, there are about 900 guard towers and 120 fortresses of different sizes. Besides these visible constructions, there are also many historical remains buried in the earth. Due to these circumstances, they have remained in their original state for over 1800 years.

III.5.5 Local community

Both in the post-Roman era and at present in some places, ORL has had an important influence on people's lives. From the names of cities, forests, pastures named according to the ORL elements near them and up to the identity of the entire area, the influence of this monument can be observed. The entire network of monuments is very well anchored in the lives of the people

who live in their proximity, and there is an increased public awareness of the uniqueness of these monuments.

III.5.6 Tourism and recreation facilities

According to UNESCO philosophy, the needs of the tourist functions cannot be more important than preserving a monument and the space surrounding it. Thus, all the measures taken for the development of the ORL must be designed not to affect the monument. At the same time, these measures cannot restrict the possibility of researching the monument but should be designed in such a way as to improve the visitor's perception of the monument and the conservation process.

The local community should accept future tourism developments in the ORL area; thus it is intended to create a scheme by which, at those times, all entities that can and should be affected should be consulted.

III.5.7 The objectives of the management plan

The main objective of this plan is to generate an attractive and organised presentation to a target audience, so all the materials related to this plan should be presented locally, regionally, nationally and internationally.

III.5.8 Measures taken

Due to the condition of the monument and the fact that it represents part of the cultural landscape, any action on it should be limited to restoration and conservation interventions. In order to be able to control the interventions on the ORL, a series of guidelines have been created meant to direct any action clearly:

- Any action on an area of the monument must have a direct historical or regional connection.
- Any intervention aimed at helping to visualise the monument should be done without harming the historic fabric.
- Forestry and conservation must work together and combine their objectives.
- The preservation of the monument must be done without creating a new monument without losing its authenticity.
- All new materials must be easily distinguishable from the original materials.

- In areas where there are intact or almost intact monuments, any new construction is prohibited. This applies especially in those areas where the monument is an integral part of the landscape.
- Reconstructions are allowed only in those areas where in-situ discoveries have been strongly affected, or modern constructions affect its visualisation. Reconstructions must be reversible [7].

From the point of view of reporting the studied site to the case studies, there are several similarities. Although our site has a number of aspects that make it quite different from other situations - a good example would be the overlap of the Natura 2000 area with Unesco heritage areas - these examples offered as case studies have essentially very similar parts to the given situation.

Plitvice Lakes Natural Park is a Natura 2000 area with many species and habitats that had to be protected and with great tourist potential. This park also needed interventions and regulations as well as the area we studied. Following a very well developed management plan and regulations sometimes considered drastic, the park has become a true European landmark and an example for other countries with similar areas. The Upper German-Raetian Limes - this historic site does not resemble our situation only because it is a UNESCO World Heritage Site and its antiquity. Both this site and the one we studied were part of the Roman Empire and represent a true landmark in history. Due to the extent of this patrimonial object and the areas with which it is interposed, it was easy to observe its influence both in the urban development of the adjacent localities and from a cultural point of view. Thus, this ensemble is very similar to the one in the area studied by us due to its influence from the past, present and future on the area it surrounds. Like the Plitvice Lakes Natural Park, many management projects and regulations were needed to ensure the conservation of this site and the possibility to open it to the public. These projects that have proven to be successful are why it was considered a landmark in the study.

IV. RESULTS AND MEASURES TO BE TAKEN

Following the analysis of the case studies and the other documents that establish clear directions both at a regional and national level and internationally regarding situations similar to the one we are in, we can observe a series of measures that will directly influence the decisions taken for the existing problems.

With regard to protected natural areas, several measures must be taken to conserve and monitor these areas without destroying or affecting the existing fauna and flora. However, due to the fact that these natural areas are open to the public at the moment and will have to continue functioning for tourist purposes, it is necessary to conserve without restricting the access of the people.

From the point of view of the elements of fauna and vegetation existing on the studied surface, it is necessary to regulate some well-defined areas where it is impossible to intervene with anthropic elements except for the maintenance and conservation of the area for research projects in the field. It is necessary to regulate the areas that are kept with the current functions and those that will be re-functionalised to be added to the existing ones to create a favourable area for the conservation of habitats with well-defined characteristics. Simultaneously, where this is required, the access of unauthorised persons must be prohibited to conserve the natural habitats that would otherwise be endangered.

For all natural areas where access to the present time is allowed and will continue to be allowed, clear measures should be taken to define routes or areas to be visited, which may have maintenance when needed, provide points of interest and not destroy or generate important changes in natural habitats, changes that are not reversible.

All these measures must appear in an action plan for the biodiversity of the area. This action plan must be created in conjunction with the Local Urban Planning Regulation and the Management Plan of the area to clarify the measures envisaged therein and ensure a safe and easy to understand climate, without any possible interpretations.

The protection systems of natural areas and caves, already existing must be protected and their damage prevented, as well as the leaving of organic materials or waste, the use of different objects that generate fire, and any movement within the caves or protected areas will be carried out without exceeding the limit of the existing path

In view of the situation of protected fauna and flora, a number of measures must be prepared to reduce their exposure to the human factor. Thus the existing species must be protected, and interventions should be prohibited in this environment, including new routes for cars, motorcycles or ATVs. At the same time, hunting actions will be strictly regulated, and measures will be taken to prevent poaching.

From the point of view of the existing historical fabric, woven with an undeniable heritage value, we can say that it is necessary to provide a set of measures at least as important as the one proposed for the protected natural areas. Thus the first problem to be solved is related to the protected area of the historical test. It is necessary to clearly define the areas of protection of these monuments, taking into account the private properties - where they exist - the natural protected areas but also the natural or anthropic elements that can affect these limits.

Regarding the actions on the monuments, it should be specified that they will be done only if they represent an emergency - when we talk about safety interventions - or are meant to help visualise the monument. In this second case, the interventions must be made respecting the historic fabric. This tissue should not be affected, the new materials that will be used must be distinguishable from the old ones without creating a new monument or in any way modernising the original monument, and reconstructions will only be allowed in those areas where the monuments were strongly affected. Any reconstruction of some monuments existing on the site must be reversible and not modernise the monument.

In the protected areas of the monuments, new constructions will be allowed only if they have a historical or regional-geographical connection with it and do not affect the visualisation of the existing monuments.

Given that we are talking about an area that also offers visitors access at this time, the existing routes to and from monuments as well as those passing through protected natural areas must be taken into account. These routes must be preserved and monitored to ensure the minimum requirements for operation and the infrastructure must be upgraded. The newly proposed routes must be designed in such a way as to offer points of interest without affecting the natural areas or the existing monuments. All newly proposed trails in protected areas and protected natural areas must also provide access for people with disabilities.

In the protected natural areas and the protected areas of the monuments, near them will be prohibited the access by motor vehicles to the unauthorised personnel. In the protection zones of the monuments, a new protection zone will be provided around these monuments where the access of the people will be possible only pedestrian in order not to affect the structural integrity of the monuments. Given these requirements, it is necessary to provide parking areas for all types of motor vehicles, but also for bicycles or scooters, near the areas where only pedestrian access is allowed.

From the perspective of tourist areas and recreational areas, the proposed interventions should help consolidate and develop the current situation. Thus for the areas with monuments, interventions are proposed that will facilitate the access of tourists and provide them with clear information about the sights that can be visited. In this regard, a series of tourist centres are proposed to operate under the guardianship of the local administration strategically located so that it can assist tourists. These points will have some areas that they serve and will be able to offer guided tours to monuments and protected natural areas.

The local community must be an important factor in making decisions and generating a local management plan for these resources. Thus, it is proposed to coagulate the community in organisations that will take part in the entire decision-making process in order to provide both support in activities that require human resources and on the side of local traditions. At

the same time, the local community should participate in educational and research meetings to understand the need to protect the existing area but also the monuments.

Besides these, the local community is an important factor also from an economic point of view. Due to the inhabitants, particular objectives can be activated that link the area with the local traditions that are less visible. Thus, they can open with the support of the authorities, accommodation units or restaurants with a traditional character which is itself a tourist attraction. However, these activities must comply with the regulations regarding the protection of natural areas and the monument protection area. Thus, they cannot be located within protected areas or monument protection areas.

All these proposals will be organised into specific action plans to ensure the smooth running

of things and to establish a series of clear development directions. To this end, the following action plans are proposed:

- Biodiversity Action Plan - will cover all proposals related to the protection, conservation and maintenance actions of natural areas
- Heritage Action Plan - covers all proposals related to interventions in archaeological sites and monument protection areas
- Accessibility Action Plan - refers to all access routes to and from monuments and natural areas
- Action plan for tourist areas and recreational areas - covers all proposals related to tourist areas and recreational activities
- Action Plan for Local Community Involvement - covers all activities related to local community involvement.
- All these plans and regulations can be included in a certain timeline that expresses the order of general actions, as follows (see Fig. 6).

		Natural areas	Historical sites	Local comunity
Short term	1-2 years	<ol style="list-style-type: none"> 1. Defining the protection zones for certain habitats and respectively the zones that allow the access of the visitors. 2. Regulation of areas where interventions with anthropogenic elements are not allowed and delimitation of areas with prohibited access for the general public. 3. Regulation of hunting actions 4. Promoting the sustainable use of resources in the park, which provides support for traditional activities (already proposed in the PNGM-C Management Plan) 	<ol style="list-style-type: none"> 1. Defining the protection zones of the monuments and regulating the permitted actions inside them 2. Development of projects for the conservation of the historical fabric 3. Promoting the need to preserve sites with heritage value and their importance in the development of local culture and traditions (already proposed in the PNGM-C Management Plan) 	<ol style="list-style-type: none"> 1. Creation of organizations that will be involved in the management process of natural areas and historical areas 2. Encouraging the local community in the development of activities to ensure the sustainable development of the area (already proposed in the Management Plan of PNGM-C) 3. Encouraging the local community in promoting cultural values and traditional activities (already proposed in the PNGM-C Management Plan)
Medium term	2-5 years	<ol style="list-style-type: none"> 1. Designing routes and areas that can be visited, taking into account the way of accessing them - on foot, by motorized vehicle, by bicycle, etc. 2. Realization and maintenance of public routes and areas with tourist access 	<ol style="list-style-type: none"> 1. Designing routes and areas that can be visited taking into account the way of accessing them - on foot, by motorized vehicle, by bicycle, etc. 2. Realization and maintenance of public routes and areas with tourist access 3. Facilitating tourist access through infrastructure development projects 	<ol style="list-style-type: none"> 1. Creation of projects to help support private investments and respectively the economic development of the area (restaurants and accommodation units) 2. Creation of educational and research projects of natural areas and historical areas
Continuous		<ol style="list-style-type: none"> 1. Conservation, monitoring and management of species and habitats that already exist in the studied area (already proposed in the PNGM-C Management Plan) 2. Reassessing the situation at a given period and ensuring the maintenance of tourist routes and areas accessible to existing tourists and the design of new facilities for them. 	<ol style="list-style-type: none"> 1. Conservation, monitoring and management of the existing historical fabric (already proposed in the PNGM-C Management Plan) 2. Reassessing the situation at a given period and ensuring the maintenance of tourist routes, infrastructure and areas accessible to existing tourists and the design of new facilities for them. 	<ol style="list-style-type: none"> 1. Reassessing the situation at a given period and ensuring the continuity of the involvement of local community organizations in the process of management of natural areas and historical areas

Fig. 6. General measures timeline

V. CONCLUSION

Following the case studies analysis, a series of similarities between them and the territorial administrative unit studied - Orastioara de Sus, were observed. These similarities, observed before proposing management plans, helped determine the relevant factors and measures in the case studies that can be adapted and used in the current situation. They start from the biodiversity side and continue with the existing heritage, the management part, accessibility and even the involvement of the local community. Considering the similarities between the studied area and the case studies, we can conclude that the measures taken in these areas can be applied directly or can be adapted to the current situation. Thus, we have generated a series of proposals organised in action plans related to specific areas that need improvement.

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