THE ROMANIAN STAKEHOLDER PERCEPTION ON THE MULTI-USES CONCEPT PROMOTED WITHIN THE MARSPLAN-BS II PROJECT

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Abstract. The Multi-Uses (MU) concept is still novel in the Black Sea, particularly in Romania. Following the Horizon 2020 MUSES project methodology and the Multi-Use Action Plan recommendations, the concepts were tested under the MARSPLAN-BS II project within a first pilot MU case study for Romania, in the coastal area laying northerly between the Corbu Village towards the border with Bulgaria to the south. It aims to explore the 'soft' MU combination of Tourism, Underwater Cultural Heritage (UCH), and Environmental Protection fit-for-purpose for the Maritime Spatial Planning scopes by considering the main drivers and barriers that might contribute to or hinder its realization. The analysis is mainly based on the in-depth desk research and stakeholder consultation process. It resulted that the main barriers against developing the combination are related to the inefficient and/or insufficient legal framework as well as national/local strategies and programs for supporting the considered activities (addressing the financial, social, research, and innovation aspects).

Key words: Multi-Uses, DABI, Romanian Black Sea coast, Tourism, Underwater Cultural Heritage, Marine Protected Areas

1. INTRODUCTION

Multi-use (MU) concept is defined as the intentional joint use of resources in close geographic proximity, representing a radical change from the concept of exclusive resource rights to the inclusive sharing of resources by one or more uses (Zaucha, 2017). The concept was explored and improved within the H2020 MUSES project. Accordingly, the MUs have been classified into two distinctive groups representing two major sectors: tourism and offshore renewable energy, which are mainly drivers of the MU combinations in Europe (Lukic *et al.*, 2018): i) combinations with the tourism sector; and ii) combinations with the energy sector. The first ones, called "soft combinations", revolving around the tourism sector, do not imply infrastructural integration of fixed structures or major changes in the infrastructure, while the second ones, called "hard combinations", involve the energy sector and the use of fixed or floating offshore structures and installations (Lukic *et al.,* 2018). The "soft" MU combinations are characteristic of the southern European seas (the Mediterranean Sea and the Black Sea), whereas "hard" MU combinations are mainly developed in the northern part of Europe due to the availability of offshore energy resources (Eastern Atlantic, North and Baltic seas).

According to European Commission (2021), the Blue Economy in Romania is less developed as compared to the other sea basin countries. Data from 2018 show that only 66,500 jobs are occupied in Blue Economy, while the gross added value (GAV) produced was 1,064 million Euros. Amongst the Romanian Blue Economy sectors, tourism (more specific coastal tourism) is the most important in terms of GAV and shows an increasing trend during the last decade.

The tourism sector may benefit from the natural and cultural underwater heritage in order to provide more attractive tourist offers, and also increase incomes for local

communities. Tourism combined with UCH (e.g. diving and beach attractiveness for sun basking/thalassotherapy/ landscapes, eco-cultural touristic trails, underwater cultural heritage sites and MPAs visiting, museums' virtual tours) provides additional, innovative tourism opportunities (both coastal and maritime) that could potentially sustain the tourism sector for almost the whole year. Such initiatives could also provide an additional sustainable source of funding for UCH and environmental protection that might have a strong potential in developing Blue Growth in the western Black Sea.

The current case study is focused on tourism as a potential major driver for the development of MU opportunities, namely the combination of Tourism-UCH-Environmental Protection. This combination was defined within MUSES project as a "combination of touristic or recreational activities with the protection of underwater archaeology and its adjacent marine ecosystems" (Schultz-Zehden *et al.*, 2018).

The analysis of the considered combination (Tourism-UCH-Environmental Protection) follows the methodology developed under the H2020 MUSES project (Bocci *et al.,* 2017) and aims to identify the main drivers and barriers. The results of the analysis are intended to guide the competent authorities in developing and implementing the national Maritime Spatial Plan.

2. STUDY AREA

2.1. Coastal and Maritime Used Areas

The study area comprises the Romanian Black Sea coast, placed in the southern of the Danube Delta Biosphere Reserve (Corbu Village) towards N up to the border with Bulgaria (Vama Veche) in the south (Fig. 1). Along the coastline there are 2 municipalities (Constanța and Mangalia), 3 towns (Năvodari, Eforie and Techirghiol) and 6 communes, namely 23 August, Agigea, Corbu, Costineşti, Limanu, and Tuzla, which account for ca. 403,840 inhabitants according to data provided by the National Institute of Statistics (2014), but the population significantly increases during the summer holyday.

The Romanian Black Sea coastal area is intensively crowded with maritime uses (e.g. coastal tourism, maritime transport, fisheries, ports, oil and gas, pipelines and cables, military uses, sand extraction, cultural heritage, protected areas) and is expected to grow further, over the next years.

2.1.1. Tourism

The Romanian littoral represents the most important touristic area of the country, accounting for almost a half of the hotel accommodation capacity and approximately 2/3 of the accommodation provided to international tourism.

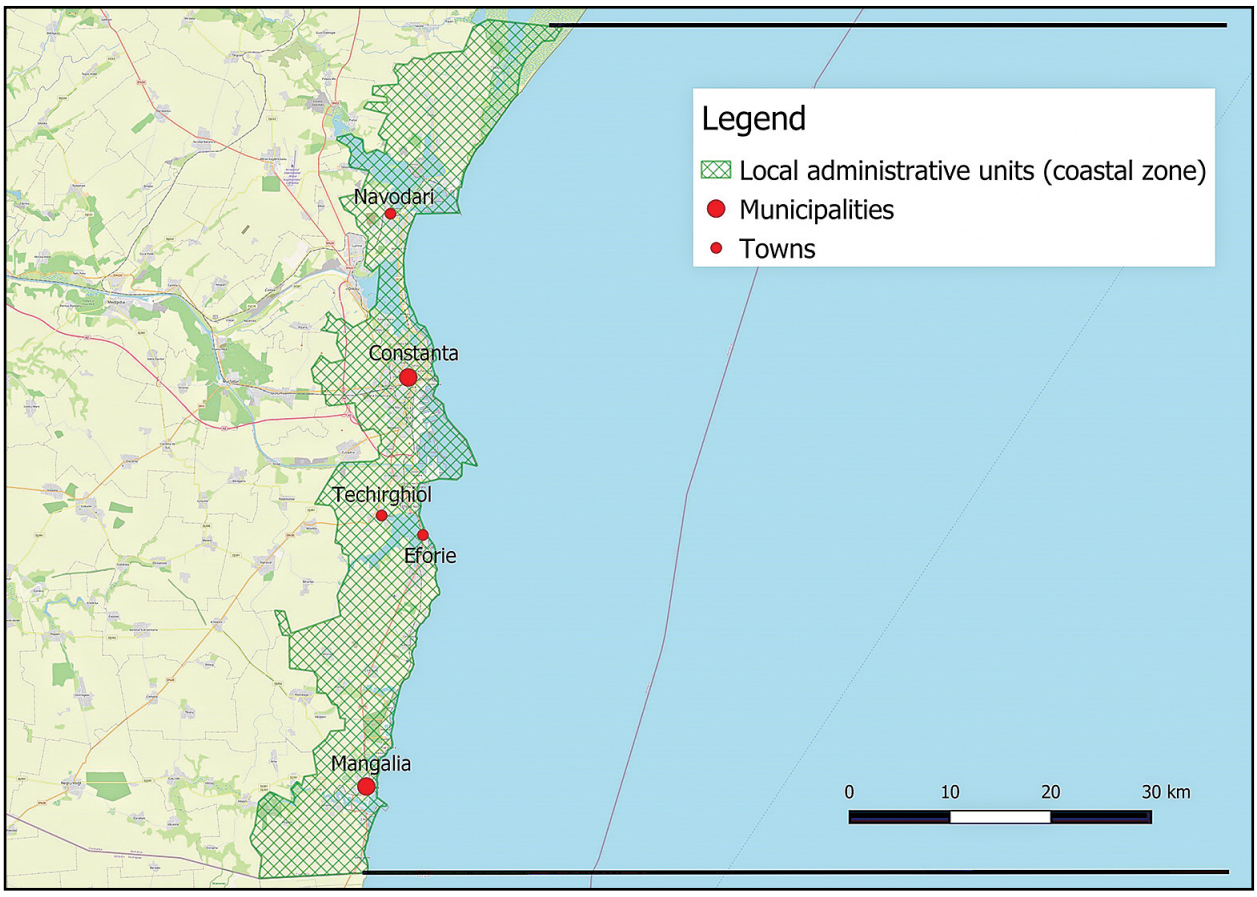

Fig. 1. The case study area situated on the Romanian Black Sea coast.

Coastal tourism is the main activity in the southern part of the Romanian Black Sea coast, but recently it can be observed an increase in maritime tourism offers. Mass tourism is well developed and it is concentrated in a series of resorts situated between Mamaia and Vama Veche localities. The study area includes 18 seaside localities, among which 12 are tourist resorts of national interest. They offer a wide range of accommodation facilities and tourism services (health, sport and recreational activities). The number of tourists in the study area has constantly increased since 2000 reaching 850,000 persons in 2014 and 1.28 million in 2019. During the 2019 summer season, 66% more tourists visited the seaside, as compared to the summer of 2014, but the average period of accommodation slightly decreased from 3.0 to 2.9 nights (NIRD Tourism, 2018).

2.1.2. Underwater Cultural Heritage (UCH)

The conservation and protection of UCH have become a growing priority over the past decade, especially since the UNESCO (2001) Convention on the Protection of the Underwater Cultural Heritage was adopted in 2001. The Convention defines UCH as "all traces of human existence having a cultural, historical or archaeological character, which have been partially or totally underwater, periodically or continuously, for over 100 years" or shorter periods, based on a number of criteria to prove that they are worth being preserved and protected. Numerous shipwrecks (more than 70 targets) have been identified in the Romanian shelf waters. Besides the wrecks, the underwater cultural heritage in the Romanian waters includes also ancient archaeological remains in form of accumulation sites (submerged structures), where artefacts from different historical epochs are overlapping. There are three very important submerged settlements in the study area, namely Tomis (the ancient name of Constanta) and Callatis (the ancient name of Mangalia) and Histria.

The identified shipwrecks are going to be subject of exploration by researchers and tourists (scuba divers). Most likely, the number of the wrecks located in the area is larger than those already identified, thus further investigations should be conducted to discover and introduce them in the possible further underwater touristic itineraries.

2.1.3. Marine Protected areas (MPAS)

Starting with 2016, the surface of designated SCIs in marine Romanian waters is 605,623 ha (20.46% of the Romanian EEZ area). The study area includes seven marine protected areas, of which six are SCI and one SPA. Only 37% (5 SCIs within old limits and 1 SPA) from the Romanian Black Sea Natura 2000 network have management plans and the conservation measures are largely not adapted to the requirements. In Romania, the conservation objectives were not projected by public consensus, and the strategies that should involve the stakeholders as the first step towards understanding the ecological, cultural, and social benefits, have not been elaborated yet, which have led to hard-to-resolve conflicts.

Considering that the tourists may benefit at the same time from environmental and cultural values, the environmental protection measures should be developed and included in MPAs Management Plans (where these are elaborated) and should be compatible with UCH conservation.

3. METHODOLOGICAL APPROACH

Following MUSES case study methodology (Bocci *et al.,* 2017), the adopted approach for the Romanian MU case study is mainly based on the in-depth deck research and active stakeholder engagement. The current analysis of the MU combination for Romania will consider the following four themes, defining the so-called **DABI approach**: Drivers = factors promoting MU; Added values = positive effects of establishing or strengthening MU; Barriers = factors hindering MU; Impacts = negative effects of establishing or strengthening MU. The desk research consisted of an analysis of the past and present related projects, not only at the Black Sea basin level but also at other regional seas. Based on the outcomes of the above-mentioned analyses, the DABI (Drivers, Added Values, Barriers, and Impacts) catalogue was drafted. Factors related to the Drivers, Barriers, Added Values, and Impacts were identified and proposed to stakeholders for consultation and scoring. Drivers are referring to the factors promoting/supporting/facilitating/strengthening the MU development, while Barriers are defined as factors hindering / preventing / negatively affecting MU. Added values are defined as the benefits or positive effects/impacts of establishing or strengthening MU, while Impacts are the consequences or negative effects/impacts of establishing or strengthening MU.

The DABI factors were put on a questionnaire which was sent to stakeholders to be scored in relation with the factors importance. Together with the identified DABI factors, a focus area analysis was conducted based on the stakeholders' consultation process. The questions related to three focus areas were elaborated and also added on a questionnaire which was sent to stakeholders. Thus the questionnaire included three sections, as follows: the first one included the personal/ organization information, the second one was related to the DABI factors and the third one was dedicated to the questions regarding the three main focus areas. The results of the questionnaire were analysed for assessing MU combination potential and effect, as well as to draft recommendations necessary for applying the proposed MU combination.

4. RESULTS

4.1. Desk Study

Following the case study methodology developed within MUSES project (Bocci *et al.,* 2017), a desk research analysis was used as a starting point for drafting the catalogue of DABI factors for the MU combination of Tourism, UCH & Environmental Protection.

Desk research first included analysis of past or ongoing projects related to the MU, scientific literature, technical reports or other available information on the MU followed by the analysis of existing key EU and national legal and policy documents regarding this MU.

The HERAS Project (CBC Programme Romania-Bulgaria 2007-2013) an Underwater Heritage Tourism Management Plan was one of the most important projects targeted to explore the western Black Sea shelf and identify underwater archaeological sites in order to promote them in a „Scuba Diving" adventure tourist circuit (HERAS, 2015). Moreover, the "Western Black Sea Underwater Cultural Touristic Routes" project has selected and classified among the most attractive transnational tourist objectives in a new transnational tourist package "Western Black Sea Underwater Cultural Tourist Routes" (Caraivan *et al.,* 2018), which contains 4 transnational visiting routes: 3 Western Black Sea underwater destinations and 1 onshore destination. Two local projects aimed also to promote the business and entrepreneurship in the tourism and cultural sectors: the ESCAPELAND (2020 – 2022) „Development and promotion of Active Tourism in the Black Sea" and the "Joint Cultural Heritage – Source for Development of Entrepreneurship in the Black Sea Basin "TREASURE" project (2018 – 2020).

The next step in the desk research included the analysis of the main national or international legal and policy documents regarding this MU, single uses and activities in the maritime space of the study area and of national scope, such as MSP, sectoral legislation, municipality development plans, and other relevant documents. One of the most important legislative bodies implemented in Romania is the Law 99/2007, which ratifies the 2001 Convention.

4.2. DRIVERS, BARRIERS, ADDED VALUE, IMPACTS (DABI) TO MU

According to the MUSES project methodology, factors related to the Drivers, Barriers, Added Values, and Impacts were categorized considering the key issues for MU development, such as policies, legal aspects, environmental and socio-economic benefits and constrains, technical capacity, and interactions with other uses. Each category includes one or more specific factors. Thus, all pre-identified factors by the project team were considered to be applicable to the southern coastal area of Romania. The final catalogue of DABI factors is shown in the Table 1.

4.2.1. Stakeholder Involvement

Stakeholder engagement proved to be one of the main sources of information in the MUSES project (Zaucha, 2017), and used in all case studies for different basins in the project. Under the MARSPLAN-BS II project case study for Romania, the preliminary catalogue of DABI factors identified during the desk research by the project team was evaluated and scored by different categories of stakeholders in relation to the three sectors of combination: tourism, UCH, and environmental protection via questionnaires. Although the stakeholder consultation method by interviews and face-to-face meetings and discussions with stakeholders is definitely stronger than questionnaires, the pandemic conditions during the working period did not allow direct contacts between the project team members and the interviewees.

Stakeholder scores express their views on drivers/barriers/added value/impacts of MU. Moreover, experts and stakeholders were asked to identify additional factors according to their knowledge/experience. No other factors were added to the pre-identified DABI factors and none of the pre-identified factors were proposed to be removed, therefore the Drivers, Barriers, Added Values and Impacts factors proposed by the project team were considered further in the current analysis of the MU combination.

4.2.2. Stakeholder Profile

There were 38 responses from 24 organisations, representing all stakeholder categories, received and further analysed by the project team. A larger number of decision-makers as compared to other types of stakeholders participated on the survey, but some authorities such as Ministry of Environment, Water and Forests; Ministry of Culture, and Ministry of National Defence (that regulates the diving activity in the Romanian waters through the UM 02145 Diving Centre). The latter were represented in the survey by the organisations they coordinate, such as Danube Delta Biosphere Reserve Administration, Museum of National History and Archaeology – Constanta, and Maritime Hydrographic Direction respectively. Also, some relevant tourism companies have not answered positively to the invitation; only one tour operator (as end user) completed the questionnaire.

Concerning the activity sectors represented by the questioned organisations, most of them, with one exception, were regulatory bodies and researchers in the environmental protection field. In terms of geographical scale of most stakeholders have competences at local and national level and others such as the research institutes act at international level, through their involvement in international and European projects.

4.3. Results of DABI Scoring: Analysis of MU Potential and MU Effect

MU potential and effect of the proposed combination resulting from the stakeholders' consultation (*via* questionnaires) process were assessed according to the methodology developed within the framework of the MUSES project (Bocci *et al.,* 2017). The final identified factors within each category of drivers, barriers, added values and impacts were scored by all 38 interviewed stakeholders.

Table 1. Final catalogue of DABI factors for the MU Tourism, Underwater Cultural Heritage & Environmental Protection for the Romanian case study area

DRIVERS = factors promoting MU	BARRIERS = factors hindering MU
Category D.1 – policy drivers Factor D.1.1 Existence of strategic documents at regional and community level for sustainable development (Blue Growth Strategy, Black Sea Strategic Research and Innovation Agenda, South-East Development Strategy, etc.); Factor D.1.2 Support from Black Sea Commission strategic documents (Strategic Action Plan); Factor D.1.3 Directive 2014/89 / EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning; Factor D.1.4 Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive); Factor D1.5 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.	**Category B.1 – administrative barriers** Factor B.1.1 Lack of communication / coordination between the authorities with competences in the fields of underwater cultural heritage, tourism and environmental protection; Factor B.1.2 Insufficient knowledge of national legislation regarding the Underwater Cultural Heritage, as well as UNESCO Convention; Factor B1.3. Illegal underwater construction (without permits issued by the competent authorities); Factor B.1.4 Insufficient updating of the management plans of the Marine Protected Areas; Factor B.1.5 Lack of strategies for protecting and capitalizing on underwater cultural heritage sites.
Category D.2 – interactions with other uses Factor D.2.1 Multiple synergies between UCH, tourism and environmental protection; Factor D.2.2 MU combination of Tourism – UCH - Environmental Protection (MPAs) could be closely linked to tourism, cultural, environmental and other terrestrial activities; Factor D.2.3 Synergies with marine (biology, geology, chemistry, etc.) and socio-economic scientific research.	**Category B.2 – interactions with other uses** Category B.2.1 Conflicts with other maritime uses (e.g. maritime transport, fishing, aquaculture, submarine pipelines and cables, etc.).
Category D.3 – economic drivers Factor D.3.1 Increased demand for diving activities in submerged / wrecked sites due to increasing interest from divers and tour operators; Factor D.3.2 Increased interest in diversifying the tourism sector (e.g. new tourist offers); Factor D.3.3 Existence of initiatives and demand for the extension of the tourist season by carrying out other recreational activities in the coastal area; Factor D.3.4 Increasing eco-tourism options as opportunities for Blue Growth; Factor D.3.5 Increasing the number of target groups interested in visiting the UCH sites and Marine Protected Areas.	**Category B.3 – financial barriers** Factor B.3.1 Lack of a full understanding of the benefits of this MU combination (Tourism - Underwater Cultural Heritage-Marine Protected Areas); Factor B.3.2 Lack of adequate financial support and / or incentives; Factor B.3.3 Lack of investment in this type of tourism sector; Factor B.3.4. Scuba diving equipment are very expensive.
Category D.4 – societal drivers Factor D.4.1 Increasing interest in promoting and protecting underwater cultural heritage and Marine Protected Areas; Factor D.4.2 Possibility to identify new itineraries with multiple interconnections with historical terrestrial and coastal sites, creating opportunities for socio-economic growth of the study area (e.g. connections with History Museums); Factor D.4.3 Clusters, NGOs, groups of volunteers existing in the study area, with activities in the respective fields (environmental protection, UCH protection, etc.); Factor D.4.4 Development of local museums, tourist information centres and cultural exhibitions on the history of the Black Sea, as well as opportunities for exploration and diving.	**Category B.4 – barriers related to societal factors** Factor B.4.1 Lack of good practices, as well as inefficient cooperation between stakeholders in the case study area; Factor B.4.2 Lack of public awareness regarding the protection and value of UCH and environmental protection.

Table 1 (continuing)

DRIVERS = factors promoting MU	BARRIERS = factors hindering MU
Category D.5 – legal drivers Factor D.5.1 UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001); Factor D.5.2 Law no. 99/2007 on the acceptance of the Convention on the protection of Underwater Cultural Heritage; Factor D.5.3 Law no. 182/2000 on the protection of the mobile national cultural heritage; Factor D.5.4 Law 53/1994 for the ratification of the Convention on Biological Diversity; Factor D.5.5 National legislation focused on the conservation and management of natural resources (nationally designated protected areas); Factor D.5.6 Legislation on the organization and development of tourism in Romania.	**Category B.5 – legal barriers** Factor B.5.1 Lack of unitary legislation for the regulation of recreational diving activities; Factor B.5.2 Conflicts between regulations / measures for the conservation and protection of the environment (MPAs / Natura 2000) and those in the field of fishing; Factor B.5.3 Conflicts between regulations / measures for the conservation and protection of the environment and maritime transport routes.
Category D.6 – environmental drivers D.6.1. Increasing demand for sustainable ecotourism and for activities related to the dissemination of environmental asset values (value of natural resources); Factor D.6.2 Raising awareness of the value of biodiversity, natural resources and the landscape; Factor D.6.3 The need to regulate and promote the sustainable use of Marine Protected Areas, which currently occur in individual, fragmented and uncontrolled ways.	**Category B.6 – barriers related to the environmental factors** Factor B.6.1 Restrictions/dependence on environmental conditions (weather, currents, pollution, etc.) for diving activities; Factor B.6.2 Short season limiting suitable sites and economic sustainability throughout the year; Factor B.6.3 Compatibility issues between the high ecological vulnerability of MPAs and its tourist exploitation.
Category D.7 – technical drivers Factor D.7.1 Technological development has increased the capacity to access the Underwater Cultural Heritage; Factor D.7.2 Publicly available information on the locations of wrecks and other underwater relics, suitable for diving; Factor D.7.3 Possibility to capitalize on the experience gained and good practices in the cross-border area developed in the MARSPLAN 1 project; Factor D.7.4 Promoting underwater tourist routes, including transboundary ones (Western Black Sea Underwater Cultural Tourist Routes project); Factor D.7.5 Promoting the underwater cultural heritage of the western Black Sea through the HERAS Project.	**Category B.7 - barriers related to the technical issues** Factor B.7.1. Limited expertise in the cultural field (i.e. divers with archaeological knowledge and trained in disseminating historical knowledge); Factor B.7.2 The reluctance of competent authorities to provide information and facilitate the access to UCH sites due to the risk of destruction / theft of UCH objects; Factor B.7.3. Poor cooperation between Dive Centres and tour operators.
ADDED VALUES = positive effects of MU	**IMPACTS = negative effects of MU**
Category V.1 – economic added value Factor V.1.1 Increasing local revenues from tourist services; Factor V.1.2 Additional funding (from tourism activities) for environmental protection, as well as conservation of underwater cultural heritage; Factor V.1.3. Development of positive economic interactions between coastal and maritime activities.	**Category I.1 - economic impacts** Factor I.1.1 Possible conflicts with other maritime activities, such as fishing, maritime transport, aquaculture, etc. (except for authorized scientific research); Factor I.1.2 Possible entry into the market of some tour operators not really interested in the activities related to the concerned MU combination, but only business and resource exploitation.

Table 1 (continuing)

ADDED VALUES = positive effects of MU	IMPACTS = negative effects of MU
Category V.2 – societal added value Factor V.2.1 Education and public awareness regarding the Underwater Cultural Heritage, coastal tourist objectives and ecological values; Factor V.2.2 Preventing the destruction of Underwater Cultural Heritage sites, specific habitats and ecological values; Factor V.2.3 Diversification of the tourism sector and extension of the tourist season; Factor V.2.4 Creating new jobs (e.g. in new marine museums, information stands, etc.).	**Category I.2. - societal impacts** Factor I.2.1 Risk of intentional damage / theft from underwater archaeological sites / wrecks; Factor I.2.2 Risk of congestion of diving sites; Factor I.2.3 The risk of disturbing the UCH sites and MPAs through the actions of less experienced divers; Factor 1.2.4 Risk of damage of the Underwater Cultural Heritage and Marine Protected Areas through illegal trawling actions.
Category V.3 – environmental added value Factor V.3.1 Education and public awareness on the environmental protection / MPAs; Factor V.3.2 Efficient collaboration of tour operators and end users for the management, protection and sustainable use of Marine Protected Areas; Factor V.3.3 The possibility that archaeological artefacts create habitats for marine species and serve as artificial reefs; Factor V.3.4 Developing /Updating measures for MPAs conservation and protection; Factor V.3.5 Reducing the pressure generated by tourism on the marine environment.	**Category I.3 - Environmental impacts** Factor I.3.1 Habitat disturbance by using modern geophysical techniques for exploring the Underwater Cultural Heritage; Factor I.3.2 Habitat disturbance through the use of high-tech diving equipment.
Category V.4 - technical added value Factor V.4.1 Creation of new specialized professions (with specializations in the field of history, archaeology and ecology).	
Category V.5 – governance added value Factor V.5.1 Consolidation of the national / local public budget for UVH and environment protection Heritage and conservation.	

4.3.1. Assessing MU Potential

Each Driver and Barrier factor was scored by stakeholders in terms of its priority, according to the MUSES project methodology (Bocci *et al.*, 2017). Thus, for factors supporting / facilitating / strengthening the proposed MU combination (Drivers) positive signs were attributed, whereas factors considered to hinder/prevent the MU combination (Barriers) negative signs were associated, following the scoring scale shown in the Table 2.

MU potential was evaluated by averaging the average driver score and the average barrier score. MU potential can assume values in the interval (-1.5; 1.5), where -1.5 reflects totally negative MU potential and 1.5 totally positive MU potential. The list of negatively and positively scored factors is shown in the Table 3. The average drivers score resulting from the current analysis was 2.38, while the average barriers score was -2.40.

The MU potential of the considered MU combination was then evaluated by averaging the driver factors scores and the barrier factors scores. The final score of the net MU potential was very close to 0 (-0.01), meaning a balance between factors promoting MU development and factors hindering the Tourism – UCH – Environmental Protection combination in the Romanian case study area.

4.3.2. Assessing MU Effect

Each Added Value and Impact factor was scored by stakeholders in terms of its priority, according to the MUSES project methodology (Bocci *et al.*, 2017). Thus, to factors representing benefits of developing or reinforcing the proposed MU combination (Added Values) positive signs were attributed, whereas to those representing negative effects of developing or expanding MU combination (Impacts), negative signs were associated, following the scoring scale shown in the Table 4.

MU effect was evaluated by averaging the average added values' score and the average impacts score. MU effect can take values in the interval (-1.5, 1.5), where -1.5 reflects a totally negative effect of MU in the area and +1.5 a totally positive effect. The MU effects were then evaluated by averaging the average added values' score (2.49) and the average impacts' score (-2.41). Thus, the MU effect was very close to 0 (0.04), meaning a balance between factors with positive effects on MU development and factors with negative effects on it.

Table 2. Scoring scale applied for Drivers, Barriers, Added Values, and Impacts

DRIVERS		BARRIERS	
Priority level	*Score*	*Priority level*	*Score*
High	+ 3	High	- 3
Medium	+ 2	Medium	- 2
Low	+ 1	Low	- 1
Not relevant /absent	0	Not relevant /absent	0
ADDED VALUES		**IMPACTS**	
Priority level	*Score*	*Priority level*	*Score*
High	+ 3	High	- 3
Medium	+ 2	Medium	- 2
Low	+ 1	Low	- 1
Not relevant /absent	0	Not relevant /absent	0

Table 3. Final scored DABI categories for DABI DRIVERS and BARRIERS of the MU Tourism, Underwater Cultural Heritage & Environmental Protection.

DRIVERS = factors promoting MU		BARRIERS = factors hindering MU	
Category	*Average score*	*Category*	*Average score*
D.5 – legal drivers	2.51	B.1 – administrative barriers	-2.52
D.1 – policy drivers	2.48	B.5 – legal barriers	-2.52
D.2 – interactions with other uses	2.44	B.2 – interactions with other uses	-2.45
D.6 – environmental drivers	2.42	B.4 – barriers related to societal factors	-2.42
D.7 – technical drivers	2.29	B.3 – financial barriers	-2.35
D.4 – societal drivers	2.24	B.7 – barriers related to the technical issues	-2.27
D.3 – economic drivers	2.24	B.6 – barriers related to the environmental factors	-2.25

Table 4. Final scored DABI categories for DABI ADDED VALUES and IMPACTS the MU Tourism, Underwater Cultural Heritage & Environmental Protection.

ADDED VALUES = positive effects of MU		IMPACTS = negative effects of MU	
Category	*Average score*	*Category*	*Average score*
V.5 – governance added value	2.58	I.1 - economic impacts	-2.51
V.3 – environmental added value	2.52	I.2. - societal impacts	-2.45
V.2 – societal added value	2.49	I.3 - Environmental impacts	-2.17
V.1 – economic added value	2.43		
V.4 - technical added value	2.37		

In the Table 3, the average scores for each category of DABI factors are reported. They were computed by averaging each factor average score that belong to the considered category.

Concluding, both MU potential and MU total net effect for the combination of Tourism, UCH &Environmental Protection in the studied area are quite close to 0, suggesting a balance between factors promoting and those hindering MU development and factors *pros* and *cons* of MU development, respectively. This is very important for the planners in order to address actions aimed at facilitating MU development and actions aimed at maximising added value of MU (Bocci *et al.*, 2017).

The results of analysis of MU potential upon stakeholders' perception (Table 3) yielded the lowest scores for D3 and D4, which could indicate that more actions promoting socio – economic aspects need to be considered by the competent authorities. In terms of the obstacles, stakeholders considered the most important those related to the administrative and legal aspects.

As related the MU effect result, the stakeholders considered the most important benefits of the combination are related to the environmental issues, while more actions are needed for maximizing the technical and economic added values and to minimalize the economic impacts of the combination.

4.3.3. Analysis of DABI Results

4.3.3.1. Drivers and added values

The results of the MU Romanian case study analysis indicate that the main drivers for the Tourism, UCH & Environmental Protection combination are related to the legal and policy aspects (Table 3) that is partially in line with the main drivers identified in Lukic *et al.* (2018). Thus, the highest scores (>2.50) in terms of the combination drivers were assigned to factors referring to the Environmental Protection, more specific the national legislation on the conservation and management of natural resources, factor D.5.5 (Table1), including the implementation of Habitats Directive, factor D.1.5 (Table1), and the Underwater Cultural Heritage protection, more specific UNESCO Convention implementation in Romania, factor D.5.1 (Table1) including the law transposing it into the national legislation (D.5.2). Also, high scores (2.50) were obtained by factors related to the MSP and MSFD implementation as well as by the environmental factor related to the needs for regulating and promoting the sustainable use of MPAs (factor D.6.3) (Table 1). Among the technical factors, the highest importance for promoting the case study combination (score of 2.47) is linked to the experience gained and good practices in the cross-border area developed in the previous project MARSPLAN 1.

The lowest ranked Drivers (less important in the stakeholders' opinion) are from technical, societal and economic categories. One of the lowest scores (2.18) was assigned to the technical factor D.7.2, which is in opposition with some findings from Lukic *et al.* (2018), but it underlines the need for a better communication of UCH research results. It is quite surprising the low scores attributed to factors D.4.4 (2.18) and, especially to D.3.1 (2.08) (Table 2), suggesting that the interviewed stakeholders consider the popularization and increased cultural interest for UCH are quite less important for promoting the combination.

As regarding the Added Value of the considered MU combination, it is worth to mention that the highest ranked factor is V.3.1 suggesting the recognition of the importance of MPAs landscape integrity in relation to the archaeological exploration as well as the stakeholders' perception that Environmental Protection/MPAs still needs to be strengthen and this combination could meet this need. The second highest score (2.58) were obtained by two societal Added Values factors related to the tourist season extension and diversification of tourism sector in the case study area (strengthen the cultural tourism) as well as protecting the UCH by preventing its destruction (factors V.2.3 and V.2.2) (Table 2). Another very important Added Values brought by the MU combination is related to the consolidation of public/ local budget that can be used for UCH and environment protection and conservation. Other added values are associated with education and public awareness on UCH (score of 2.50) and a potential strong collaboration between authorities and other end users (tour operators, scuba-diving centres) for the management, protection and sustainable use of MPAs (score of 2.53), which represents the willingness of stakeholders for synergies and co-existence between Tourism, UCH & Environmental Protection (Stancheva and Stanchev, 2020).

Surprisingly, the interviewed stakeholders consider the least important Added Values brought by this combination are the new jobs (score of 2.32) as well as new specialized professions in the field of history, archaeology and ecology (score of 2.37) that could be created. This may indicate a low understanding of the MU combination social benefits.

4.3.3.2. Barriers and Negative Impacts

The main factor hindering the MU combination is B.1.5 (score -2.61) (Table 3). This suggests that, although UNESCO Convention is already implemented in Romania, the stakeholders consider there is still room for improving the existing legislation regarding the UCH protection as well as to capitalize it by a better/stronger connection to the tourism sector. As regarding the valorisation of UCH and natural resources, it is worth to mention the high negative score assigned to factor B.3.1 (score -2.55), this being in line with the low scores assigned to positive effects related to job (specialized jobs) creation and increasing local revenues from tourist services. Other key barriers are considered to be related to the regulation of diving activities that is in line with Lukic *et al.* (2018) and potential conflicts between Environmental protection (seabed habitats) and fishery.

The negative effects are mainly related to societal and economic aspects (Table 3). The stakeholders consider the risks of intentional damage/theft from UCH sites, including risks posed by illegal fishing (trawling) as main negative impacts (Table 3). Other very relevant negative impacts are linked to the conflicts with other maritime uses (fishing, shellfish harvesting, maritime transport, etc.). The less important negative impacts are considered those related to the seabed habitats disturbance due to geophysics equipment or hi-tech diving equipment.

4.3.3.3. Focus areas analysis

The current analysis is focused on certain elements of the case study aiming at identifying the needs for developing MU, impacts (both negative and positive, cumulative), barriers and enablers, and actions to overcome barriers and maximize synergies. The analysis follows the methodology proposed by MUSES project and was also conducted *via* questionnaires. The questions addressed to the stakeholders were grouped into three focus areas, namely *Addressing Multi Use*, *Boosting Maritime Blue Economy,* and *Improving environmental compatibility*.

Focus Area 1 'Multi-Use'. Issues highlighted by 90% of respondents, refer to the need for legal/administrative changes/improvements for overcoming the barriers related to the development of Tourism and research/ promotion of the UCH. In addition, sharing of infrastructure (13 answers), personnel/staff (10 answers), technological knowledge (8 answers), services (4) should be promoted to enhance the multi-uses concept among sectors, increasing awareness of the benefits that might arise from connecting also with the terrestrial activities/infrastructure, such as for example by taking advantage of the tourism driving role on developing the land-based infrastructures as a need to improve the touristic flows. The question related to technology and knowledge needed to develop/consolidate this combination of maritime uses revealed that stakeholders are not really prepared to suggest solutions and also that the concept is more or less a novelty and needs further knowledge. However, most stakeholders suggested that the most appropriate actions to be taken to develop/consolidate this combination of maritime uses should focus on research development (12 respondents), legal (11), and economic actions (10), most referring to the regulation of diving activities (access to water areas suitable for diving, strengthen control over the destruction of cultural, historical and natural values), as well as to increase available funding sources, to provide financial facilities, incentives. More than half of the stakeholders indicated that the policy-makers are the key actors that should support the development/consolidation of the MU combination.

Focus Area 2 'Boosting Maritime Blue Economy' appraised the stakeholders' perception of the social and economic opportunities that might result from the combination of maritime uses. Most of the stakeholders considered that the economic and social value that might be added to local and regional communities by this combination could be positive but a significant part also indicated a lack of knowledge on this aspect. Nevertheless, 40% of them managed to quantify the socio-economic benefits of this combination, whereas most (20 out of 38 subjects) were unable to recognize them. The creation of new jobs (e.g., diving guides trained in UCH, marine biology guides) could be one of the benefits brought by the combination according to 80% of respondents. Investors from tourism, shipbuilding, innovative technologies, and research fields were identified by most of the stakeholders as factors that might boost the blue growth economy by considering the potential of a synergic and consolidated development of the combination of Tourism - Underwater Cultural Heritage – Environmental protection. Most of the stakeholders concluded that to develop/expand/strengthen this combination, the dialog between coastal stakeholders should be opened, a local strategy should be built, and not ultimately, a feasibility study that includes the analysis of alternative scenarios would be very important.

Focus Area 3 'Improving environmental compatibility' analysed the aspects of MU linked to the protection of the marine environment and/or mitigating existing impacts. Most of the stakeholders considered that the combination could bring benefits to the environment through complementary initiatives such as the protection of habitats and biodiversity of MPAs where UCH overlaps with the latter. However, besides some answers referring to general measures such as cooperation between authorities in the respective fields, it proved difficult for the stakeholders to identify practical actions that should be taken to connect the development/consolidation of this combination with increases of compatibility between the environment and maritime activities.

In general, the stakeholders' feedback was in line with the DABI results, with most of the scored answers mirroring the opinions expressed in the questionnaire focused on specific areas.

4.4. ACTIONS AND RECOMMENDATIONS TO OVERCOME BARRIERS MU COMBINATION OF TOURISM, UCH & ENVIRONMENTAL PROTECTION

4.4.1. Policy and Legislation

1. Revising the Law no. 346/21.07.2006. Currently, according to the Article 6, paragraph 4 of the above-mentioned law, "The methodologies, procedures and specialized structure for fulfilling the attributions of the Ministry of National Defence in the fields provided in par. (1) are established by the order of the Minister of National Defence". The specialized structure of Ministry of National Defence, UM 02145 Diving Centre developed the „Methodology for authorizing units performing underwater activities with divers" contributes to fencing/ limitation the possibilities for carrying out scientific/ cultural diving activities. The costs for diver authorization are very high and the training process is very long, discouraging the professional reconversion of the potential employees in this field (cultural tourism);
2. Updating the MPAs Management Plans, including the measures for the UCH protection and conservation, regulations for diving tourism, etc. Management Plans are already developed and implemented in most MPAs (excepting for ROSCI0281 Cape Aurora and ROSCI0293 Costineşti-23 August), but the plans do not include measures regarding the underwater cultural heritage;

3. Develop a code of conduct to regulate tourist and diver activities at UCH sites. According to the stakeholders' perception, the competent authorities are quite reluctant to provide information and facilitate the access to UCH sites due to the risk of destruction/theft of UCH objects. A code of conduct, including strict rules, as well as penalties for violating them, is needed to be developed for avoiding / minimalizing the risks of intentional damage / theft from underwater archeological sites / wrecks or damages of the UCH and MPAs through different maritime activities (e.g., sand extraction, illegal trawls, etc.);
4. Elaboration of the National Strategy on Integrated Coastal Zone Management and the Integrated Coastal Management Plan – this process will start most likely in 2022. The National Strategy on Integrated Coastal Zone Management is a long-term multi-sectoral policy document for the use and sustainable use of ecosystem services as well as the socio-economic development of Romania's coastal zone. The authorities at national, regional and local levels must define the measures needed to facilitate blue development of the coastal zone and protect the environment and cultural heritage. The Integrated Coastal Management Plan will set, among others: a) spatial planning and development guidelines for various economic activities and infrastructure, b) priorities and objectives in accordance with the potential for environmental sustainability in the coastal area as well as underwater cultural heritage protection and conservation;
5. Integration of UCH in the local Tourism Strategies. The National Institute for Research and Development in Tourism supported the Constanta County Council in elaboration of the "Integrated Strategy for Sustainable Tourism Development in Constanta County, 2019-2028". Contrary to terrestrial cultural heritage within the area of interest, which is quite well approached, the UCH is very rarely mentioned. The results of the successful projects related to the UCH, namely "HERAS" and" Western Black Sea Underwater Cultural Tourist Routes" are not considered in the tourism strategies. We strongly recommend to improve the Integrated Strategy for Sustainable Tourism Development to include the outputs of the above-mentioned projects and others similar, by setting a connection between the underwater and terrestrial cultural heritage;
6. Make use of other existing legal frameworks and policies such as MSP and other area-based management approaches to regulate and promote UCH management (Schultz-Zehden *et al.*, 2018).

4.4.2. Coordination and Integration

1. Increase the communication /coordination between the authorities with competences in the fields of UCH, tourism and environmental protection. The lack of an effective communication / coordination between the competent authorities involved in this MU combination was emphasized by the stakeholders as one of the key barriers;
2. Strengthen the cooperation between stakeholders from different categories (e.g. establishing cross-sectorial working groups). Another barrier for implementing the proposed MU combination, suggested by the stakeholders, is the lack of good practices, as well as inefficient cooperation between different categories of stakeholders in the case study area to find common solutions for this MU combination;
3. Promote the coordination between the Black Sea countries (competent national authorities) and to address issues in relation to UCH destruction, theft and/ or damages.

4.4.3. Promotion and Dissemination

1. Raising the tourist awareness regarding the need for environmental and UCH protection. Although in recent years the tourists are much more aware of the importance of protecting natural and cultural heritage, still, educational campaigns should be regularly conducted, especially during the tourist season (on the beaches, in media, on social media, etc.) for promoting the importance and benefits of protecting the marine environment as well as cultural heritage. These educational campaigns should involve local authorities, civil society / volunteers (NGOs representatives, students), research institutes, museums;
2. Investment in promoting and marketing cultural tourism and its benefits. Tour operators should play an important role in promotion the underwater natural and cultural heritage through tourism fairs, tourism promotional websites, media, social media, brochures;
3. Publish scientific/educational papers related to the UCH, MPAs and tourism sector. Research institutes and universities could contribute to the development of this MU combination through publishing scientific and educational papers regarding the biodiversity, habitats in MPAs or wrecks, submerged sites, etc.;
4. Strengthen the stakeholder engagement and participation in the MSP process (Stancheva and Stanchev, 2020). The competent authorities should make more efforts to attract stakeholders in MSP process. Currently, the stakeholder involvement in MSP is quite weak, many of them do not understand very well the benefits (environmental, social, economic) of MU combinations;
5. Promote the UCH within on-land museums through dedicated exhibitions (including underwater videos and photos, replicates on small scale of submerged sites, artefacts, wrecks, etc.) for non-diver tourists;
6. Support submerged sites and providing responsible access to the public, selecting some UCH sites to open for visitors while leaving others closed (within or outside MPAs). Also, creating replica sites to steer tourists away from the original can help in safeguarding particularly valuable UCH (Schultz-Zehden *et al.*, 2018);

7. Encourage cultural sea-land touristic routes resulting from connection of UCH and MPAs with land-based CH and terrestrial protected areas. Cultural routes show enormous potential for small business generation, clustering intercultural dialogue, and promoting the image of the Dobrogea area.

4.4.4. Research and Technology

Knowledge and technology to develop this MU are generally available, but they are not used extensively. The following advancements should be made:

1. Improving the national database of UCH, identifying sites suitable for regulated touristic use and sites where access is to be prohibited and share this information with the public (Schultz-Zehden *et al.*, 2018);
2. Keep updating/improving the UCH database in the cross-border area of Bulgaria and Romania (developed under the past projects). The information gathered under the past project still remains insufficiently explored and there is no map of the points, types and periods of underwater archaeological finds;
3. Better use of geophysics techniques, chemical and isotopic investigations for the identification and analysis of UCH sites;
4. Investment in technology for upgrading ROV and other equipment/technology as well as in developing dedicated boats (preferably "zero emission") for observing the seafloor which support real time experience of the UCH, but also for providing information on the MPAs habitats;
5. Development of Augmented Reality (AR) and Virtual reality (VR) apps that enrich the experience of tourists (both divers and non-divers) and stimulate their interest in Underwater Heritage;
6. Develop a Virtual Museum of Underwater Finds (follow the BLUEMED model) - an integrated platform for multimedia content delivery and networking of museums and exhibitions spaces;

4.4.5. Funding

1. Dedicated funds to be allocated for organizing professional training courses (for new specialized professions – diving, guides, etc.);
2. Allocate funds for organising courses for improving the foreign language skills of the personnel. This will strongly facilitate the communication with the tourists;
3. Funds for supporting research and monitoring in MPAs and UCH sites. Also increased funds are needed for improving the control in MPAs and UCH sites;
4. Funds for raising awareness through educational campaigns addressed to tourists and meetings /workshops regarding the protection and conservation of natural and cultural heritage addressed to some stakeholders (economic operators);
5. Funds for developing museums, cultural exhibitions, etc.;
6. Funds for organizing tourist fairs, tourism exhibition stands, etc. for promoting cultural tourism;
7. Funds for promoting cultural heritage in media, social media, etc.;
8. Promote/support retail activities, as well as gift sales of appropriate and varied merchandise, which can be an important part of the visitor experience and an important revenue source promoting local culture and identity (Schultz-Zehden *et al.*, 2018).

4.4.6. Capacity Building

1. Organise trainings of trainers on UCH and MPAs. The training activities should be addressed to the education and training of managers, decision-makers, sectoral representatives to train further other relevant stakeholders. Such training and capacity building is very important in enhancing the employment in local coastal and maritime communities, as well as to ensure protection of the UCH sites and MPAs (Stancheva and Stanchev, 2020);
2. Organise training sessions for specialized professions (for example - diving guides specialised in UCH; diving guides specialised in ecology, etc.);
3. Organise trainings for interested public/tourists for recreational diving activities (including the facilitation of getting recreational diving permits by the tourists).

5. CONCLUSIONS AND RECOMMENDATIONS

In Bulgaria (Stancheva and Stanchev, 2020) and other EU countries there are significant achievements in the discussed topic. Unfortunately, the considered MU combination (Tourism – UCH - Environmental Protection) in the Romanian part of the cross-border area seems to be not very promising. This is suggested by the MU potential and MU effect scores, both being very close to 0.

According to the stakeholder's responses, the main barriers for developing the combination are the legal framework for supporting these activities that still needs to be improved (especially for regulating the scuba-diving and conflicts between fishery and environmental protection in the Romanian maritime space). A clear national/local strategy is needed, as well as relevant supporting programmes (addressing to financial, social, research and innovation aspects), for supporting the considered combination.

On the other side, more efforts should be done in order to strengthen the stakeholder involvement in the MSP elaboration and implementation. Following their responses, the socio-economic benefits are not very well understood by all stakeholders due to a quite weak and discontinued communication process.

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