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Active involvement of stakeholders in maritime spatial planning process for Sfantu Gheorghe case study

Eugenia MARIN[1], Iulian NICHERSU[1], Florentina SELA[1], Iuliana NICHERSU[1], Marian MIERLA[1] , Cristian TRIFANOV[1]*
[1]Danube Delta National Institute, Tulcea, Romania

ABSTRACT. Starting from the fact that the management of maritime areas is complex and involves different levels of stakeholders and that its main purpose is to manage spatial uses and conflicts in marine areas, the main purpose of this paper is to identify and ensure the full engagement of the stakeholders in order to work together to identify common threats and solutions for territorial development and coastal protection in the context of Sfantu Gheorghe case study. A complex participatory approach was applied using interactive design sessions bringing together key stakeholders to elaborate development plans for integrating protective measures of coastal areas in the context of Maritime Spatial Planning.

KEYWORDS. Stakeholder collaboration; Maritime Spatial Planning; Danube Delta; public participation.

I. INTRODUCTION

This paper presents the results of Case Study 2 Sfantu Gheorghe, Danube Delta under the project Cross border maritime spatial planning in the Black Sea – Romania and Bulgaria (MARSPLAN–BS), co-funded by the European Commission through the European Maritime and Fisheries Fund (EMFF), DG MARE. Within Activity 1.1 – Initial assessment, Component 1.1.2 – Case studies on major challenges within the Romanian and Bulgarian maritime space, the Romanian case study focused on identifying and actively involving key stakeholders in maritime spatial planning process through public participation. They worked together in order to identify current problems, potentials and solutions for key issues and conflict resolution between uses and various activities for Sfantu Gheorghe territorial development and coastal protection.

Basic principles

Maritime Spatial Planning (MSP) is a transparent and comprehensive process based on stakeholder involvement whose aim is to analyse and plan when and where human activities take place at sea to support sustainable development and growth in the maritime sector [1].

The importance of stakeholders in maritime spatial planning process by contributing to the setting of priorities, objectives, and the purpose of spatial management plans. Hence, they can help identify, group, and rank management problems, needs, and opportunities in order of priority. All relevant stakeholders must be involved at the earliest possible stage in the planning process [2].

For a successful approach, a range of different stakeholders should be involved, not only maritime sectors or representatives of certain maritime activities, but also general public,

* E-mail of corresponding author: eugenia.marin@ddni.ro;

Non-Governmental Organisations (NGOs), and anybody who might be concerned or have an interest in the development of a given sea region. Stakeholders are an important source of knowledge that can significantly raise the quality of MSP. Local and regional knowledge is important to incorporate into a MSP process and might be only available via people that live for generations in the same area [3].

Geographic context of Sfantu Gheorghe case study

The case study is located in Danube Delta Biosphere Reserve (D.D.B.R.) which is a wetland of international importance especially under the Ramsar Convention in 1991 and a site of world natural and cultural heritage. The case study comprises the marine area between the seaside and the 20m isobath (according to Law no. 82/1993 regarding the declaration of D.D.B.R.), the coast line (around 200 m) and the village of Sfantu Gheorghe (Figure 1).

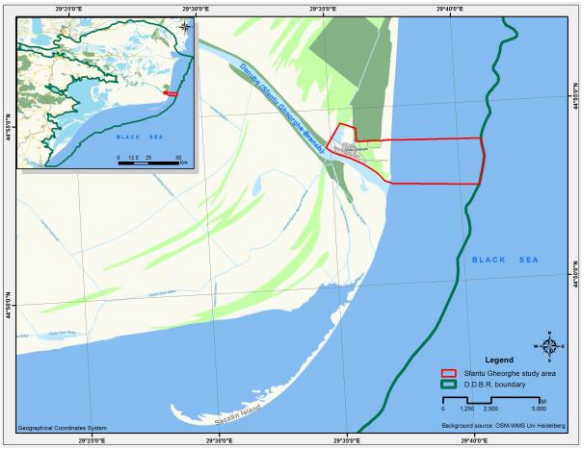

Fig. 1. Sfantu Gheorghe case study area within Danube Delta Biosphere Reserve

According to the new Governance Order (46/2016) on the Extension of the Natura 2000 sites in Romania, the ROSCI0237 site-the metanogenic submarine structures at Sfantu Gheorghe is basically embedded in the extended ROSCI0066 Danube Delta - Marine Area (Figure 2).

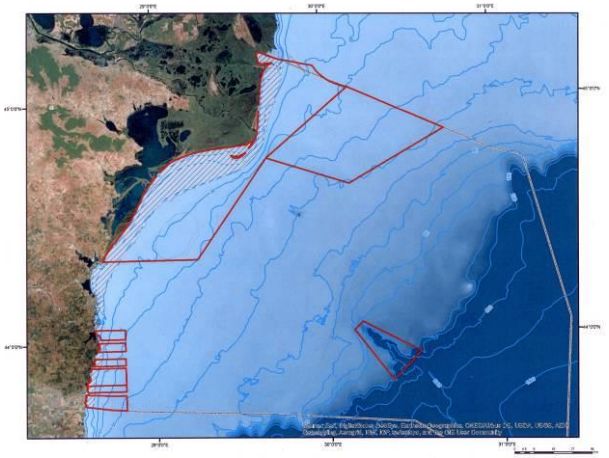

Fig. 2. Updated Site of Sites of Community Importance (under the Habitats Directive) Along the Romanian Black Sea seaside (source: NIMRD Constanta)

The commune of Sfantu Gheorghe (541-sq. km) has a population of 820 inhabitants, based on Romanian National Institute of Statistics, 2017. The community is based mainly on anadromous migratory fish, including Pontic shad (*Alosa immaculata*) and sturgeon (Acipenseridae), as well as coastal fishing for small species such as sprat, (*Sprattus sprattus*) and anchovy (*Engraulis encrasicolus*). Due to the collapse of fish stocks in April 2006, Romania banned sturgeon fishing for ten years [4] and coastal fishing with giant trap nets was abandoned. This affected community livelihoods. The fishermen are still fishing other species, but the ban on sturgeon and loss of coastal fishing have affected their income. The alternative to this negative impact is their involvement in tourism by providing tourists services like boat trips, guiding, accommodation or local cuisine and products [5].
Regarding the Natural Capital, Sfantu Gheorghe pilot is located in fluvial-maritime Danube Delta, in a flat alluvial plain with heights sandbanks of 5-6 m, with a role of natural "dams". In the surroundings of the case study there is one strictly protected area - Sacalin-Zătoane of 214.1 sq. km (Figure 3), of which both of the sandbanks and Black Sea coast are the maximum concentration sites of birds during the spring-autumn migration.

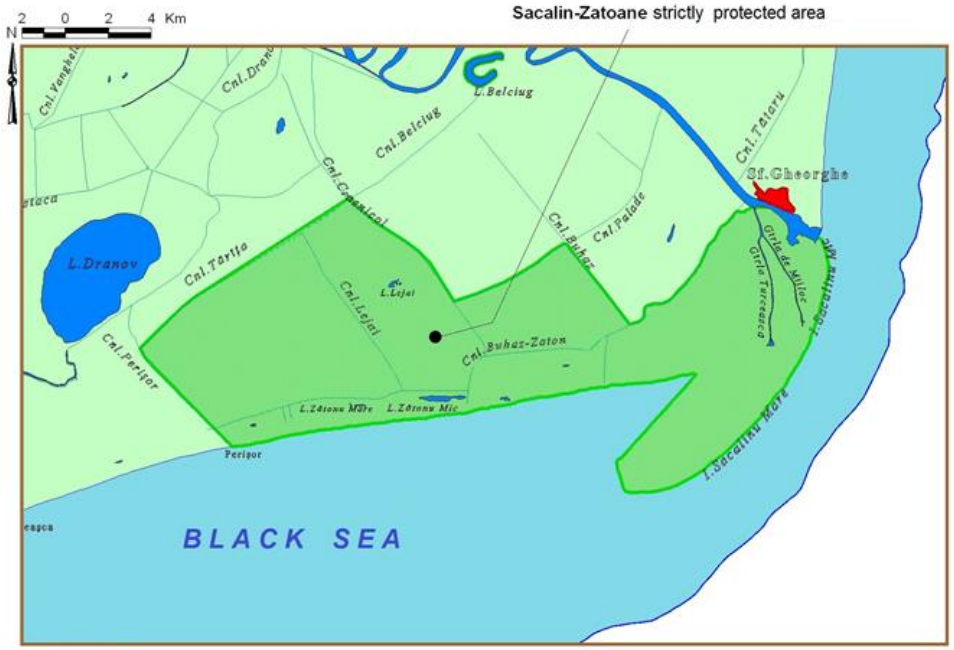

Fig. 3. Sacalin Zatoane Strictly protected area of sand banks and Black Sea coast within the case study

II. METHODS

In order to assure the full engagement of the stakeholders was applied a complex participatory approach: the *Sketch Match* method (developed by the Government Service for Land and Water Management in the Netherlands [6]. This methodology was used to identify and visualize potential development paths related to maritime spatial planning and to facilitate the decision-making process for managers, policymakers and local stakeholders.

The stakeholders covered a full range of social and environmental range, scientific community interested in space marine and maritime spatial planning authorities, nature conservation and economic environment at local and regional level.

The stakeholder interactive session lasted for two days and took place in Sfantu Gheorghe City Hall on 27-28.07.2016, consisting of three stages, as shown in the figure 4:

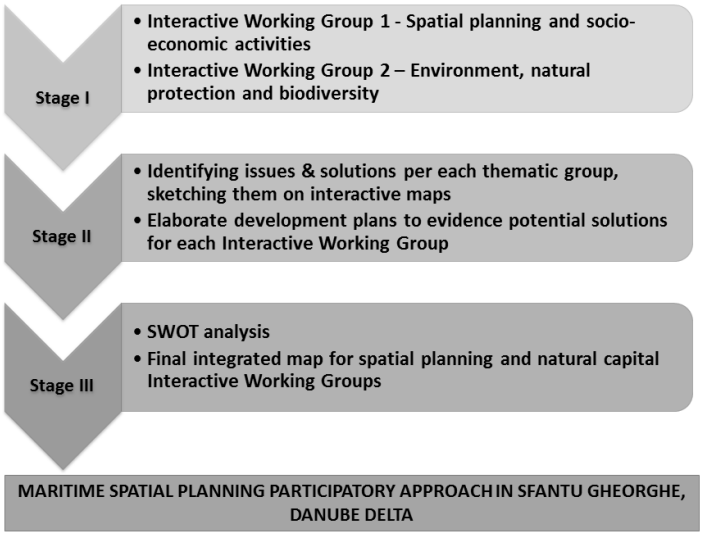

Fig. 4. Stages of participatory approach in Sfantu Gheorghe case study

Each stage had its own specific characteristics and allocation of tasks and responsibilities, as follows:

Stage I consisted in conducting 2 parallel interactive thematic working groups with stakeholders: i) Spatial planning and Socio-economic activities and ii) Environment, natural protection and biodiversity. Participants were representatives of a wide range of stakeholders, varying from local fisherman and population to representatives of the Ministry of Environment, Tulcea County Council, Sfantu Gheorghe local Council, National Agency for Fishing and Aquaculture (NAFA), Tulcea Environment Protection Agency (EPA), Danube Delta Biosphere Reserve Authority (DDBRA).

The objective of **stage II** was to draw up on maps common issues, challenges and solutions for Sfantu Gheorghe territorial development and coastal protection. In order to assure the interactivity of the participatory session, a set of thematic maps (such as land cover map, map of infrastructure and the fragmentation degree of coastal area, flood hazard map for 30 and 100 years) were produced *a priori*, on which the participants worked and sketched their own ideas and wishes in a common manner.

In the **stage III**, the subjects of discussions lead to an integrated and adapted analysis: problems, solutions, risks and potentials analysis, adapted after a SWOT analysis. Based on all discussions resulted from the meeting with stakeholders and SWOT analyses, the final integrated map was accomplished, taking into consideration all the possible solutions drawn by stakeholders according to their point of view and interest, giving in this way the possibility of a better future management of Sfantu Gheorghe coastal area.

III. RESULTS AND DISCUSSION

The results presented by each group gave an overview of qualities, problems and proposed solutions of the area to our main topic Sfantu Gheorghe coastal area. It was observed that common aspects and issues for both thematic groups.

In the 1st Working Group 1 were tackled the issues and qualities of the area from stakeholders' point of view regarding spatial planning and socio-economic activities, as follows:

Qualities:
The existence of administrative and institutional structures opened to the collaboration and initiation of joint activities;
Source for marine fishery (including the species of interest);
Great tourism potential of the area;
Development of a tourist harbor in Sfantu Gheorghe;
Conservation traditional activities (fishing, cattle breeding, reed harvesting
Establishment of micro-farms for cattle breeding and points of valorization of products from animals raised in the commune;
Existing of Urbanism Plan and the Strategy for the Development of the commune of Sfântu Gheorghe

Problems:
Lack of regulations regarding Sfantu Gheorghe shoreline;
The chaotic tourism exploitation of the Danube Delta;
Poor accessibility of tourists to the area due to exclusive access to water;
The low economic power of local community;
Excessive control of fishermen;
Fishing permits have to be obtained from different institutions, such as Danube Delta Biosphere Reserve Authority, the National Agency for Fisheries and Aquaculture, Cross-Border Police, depending on the type of waters they are fishing in;
No financial compensation or alternatives solutions have been settled for the fishermen after sturgeon fishing was banned;
High pressure on sea fishing;
Decrease in the number of traditional fishermen;
Institutional bureaucracy to establish the total allowable quota and fishing effort admissible;
Institutional conflicts in the management of fish resources up to 20 m isobath;
There is no control of foreign fleets fishing in Romanian territorial waters;
High morphohidrografical processes dynamics: silting the mouth of Sfantu Gheorghe branch;
Scarce access to social infrastructure (education, healthcare).

For the 2nd Working Group 2 the issues and qualities of the area were identified from stakeholders' point of view regarding the environment, natural protection and biodiversity, as follows:

Qualities:
Natura 2000 site, including both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs);
The existence of a natural heritage of inestimable value;
Important area for birdwatching activities, due to the fact that tin this area are nesting important colonies of herons, egrets, ibis species, etc;
Sand bindweed (C*onvulvulus persicus*) and sand morning glory (C*entaurea pontica*) are two protected species which add a touristic value in the area;
Feeding areas for cormorants and pelicans;
Wild beach with fine sands, stretching along the shore;
Interest of environmental NGO's

Problems:
Poor environmental infrastructure, uncontrolled waste - lack of integrated management of waste (especially the one from touristic units);
Lack of a sewage system;
The lack of a „real" buffer zone for the strictly protected area Sacalin Zatoane;
Existence in the area of Sfantu Gheorghe coastline of known populations of meadow vipers that may threat local people and tourists.

Further, from the working groups were identified strengths, weaknesses, opportunities and threats at the first sight. The SWOT analysis for the pilot case was accomplished (Figure 5).

The results presented above emphasize a future possibility of territorial development and coastal protection for Sfantu Gheorghe coastal area, in accordance with MSP Directive.

SWOT ANALISYS	
Strengths	**Weakness**
- The existence of administrative and institutional structures opened to the collaboration and initiation of joint activities; - Local people; - Important national tourist zone; - Nature 2000; - Diversity of living resources; - Existing of General Urban Plan and Strategy for the Development; - Important area for birdwatching activities; - Feeding areas for cormorants and pelicans; - Conservation traditional activities; - Wild beach with fine sands, stretching along the shore.	- High morpho hydrographical processes dynamics: silting the mouth of Sfantu Gheorghe branch; - Lack of regulations for Sfantu Gheorghe shoreline; - The chaotic tourism and its impact on biodiversity through pollution or access to strictly protected areas; - Lack of integrated waste management; - Institutional bureaucracy; - Overlapping institutional responsibilities regarding fishing activity; - High pressure on marine fishing; - Decrease in the number of traditional fishermen.
Opportunities	**Threats**
- MSP Directive; - Sustainable development of fisheries and aquaculture; - Developing of new forms of tourism; - Training and professional qualification; - Economic alternatives should be supported; - Alternative energy system: solar panels; - Environmental education; - Support and give assistance for accessing external funding.	- Institutional Overlap (national / local); - Conflicts of Interests; - Illegal fishing; - Tourism seasonality; - Population migration; - pollution which may damage natural resources - Low living standard; - Legislative and institutional changes.

Fig. 5. The SWOT analysis for the Sf. Gheorghe pilot case

From the above analyse, one of the main strength identified by the participants was stakeholder communication and institutional collaboration, which is one of the main key points needed in the spatial planning process together with the existence of General Urban Plan and the Strategy for the development of Sfantu Gheorghe commune.

Further, the existence of living resources together with the touristic ones, Natura 2000 network, the diversity of bird species which are nesting here, wild beach with fine sands, stretching along the shore quality of touristic infrastructure are pluses that add value to the study area. On the other hand, the chaotic tourism and its impact was seen as a weakness due

to the fact that the high density of people pollutes the environment and coastal area through boat emissions, garbage, fuel. In Sfantu Gheorghe operates a waste transfer station, as well as one of the county waste landfills but is not part of an integrated waste management. When talking about overlapping institutional responsibilities regarding fishing activity, stakeholders referred to the fact that fishing permits have to be obtained from different institutions, such as Danube Delta Biosphere Reserve Authority, the National Agency for Fisheries and Aquaculture, Cross-Border Police, depending on the type of waters they are fishing in. Also, a weakness was the fact that there is no legal delineation for Sfantu Gheorghe shoreline, a situation which generates different conflict of interest among institutions.

Based on all discussions resulted from the meeting with stakeholders and Swot Analyses, the final integrated sketch (Figure 6) was accomplished, taking into consideration all the aspects drawn by stakeholders according to their point of view and interest, giving in this way the possibility of a better future management of Sfantu Gheorghe case study coastal area. It is important that the awareness risen among the participants during the planning sessions to continue beyond the project, for a better inter-institutional collaboration.

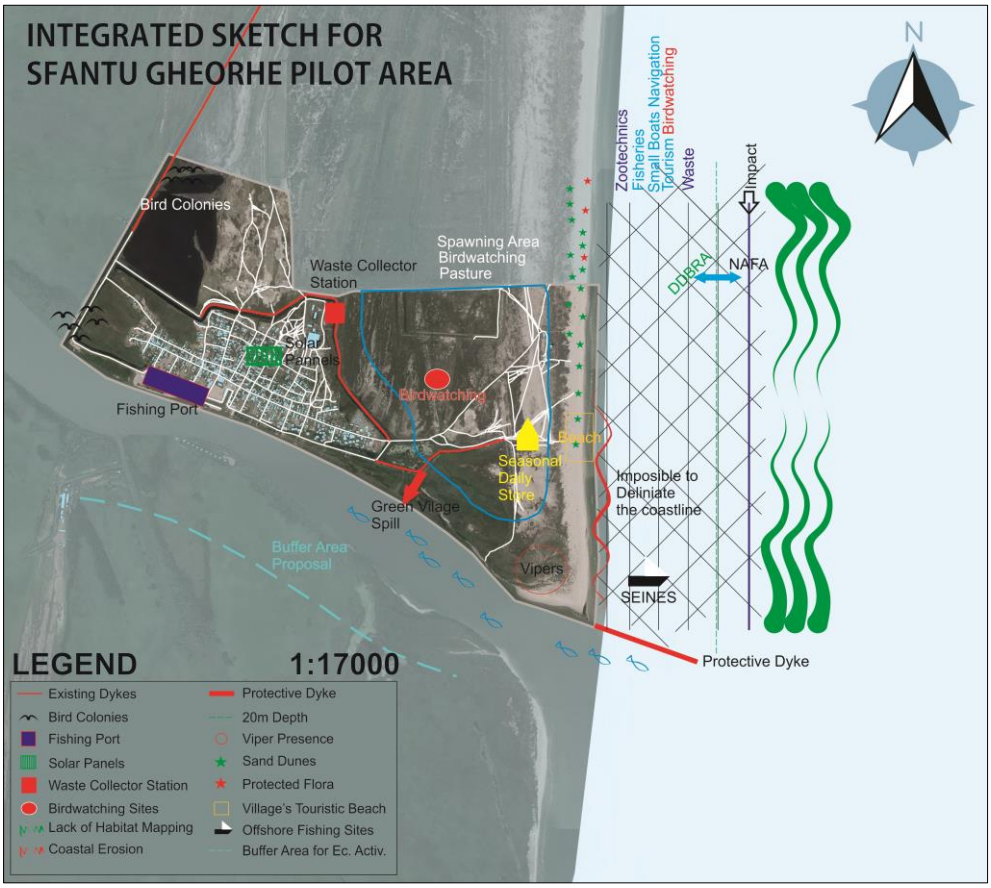

Fig. 6. The final integrated sketch for Sfantu Gheorghe coastal area in context of MSP Directive

The main priorities for the Danube Delta case study that emerged during the stakeholders' public participation were as follows:

- economic alternatives should be supported to reduce the pressure on the fishery resources:
  - involvement in tourism by providing tourists services;
  - creating new community-based socio-environmental activities using local assets such as reed handcrafting, Sea-buckthorn berries for processing local products;
- improving public infrastructure and services:
  - improving waste management services due to high concentration of touristic units in a relatively small area near the Danube and the sea;
  - fishing infrastructure.
- morphohidrographical works:
  - designing of a hydrotechnical structure to reduce the morphohidrographical processess, such as desilting works;
  - delimitation of strictly protected areas and buffer areas (especially for Sacalin Zatoane) and create a new touristic route which will include the latter area;
  - delineation of Sfantu Gheorghe shoreline.
- provide assistance to fishing activity:
  - reduce institutional bureaucracy and streamline;
  - dissolve institutional overlap on fish resources (such as DDBRA, NAFA) and conflicts in the management of fish resources up to 20 m isobath;
  - the need of a coherent legislation;
  - collaboration between local institutions and fishermen;
  - Improve flow decision to establish quotas of fishing.
- improve quality of like of local people:
  - improve legislation for fishery activity and area control;
  - assure subsidies as an alternative to banned sturgeon fishing;
  - offer training and professional qualification to reduce youth migration;
  - rising awareness among school children and local population on local environment;
  - support and give assistance for accessing external funding.

IV. CONCLUSIONS

Sfantu Gheorghe case study represents a challenge in terms of involvement of stakeholders in Maritime Spatial Planning process, since it is positioned in an area (biosphere reserve) in which biodiversity conservation and sustainable economic development should be taken into account in the most efficient way.

Local population of Sfantu Gheorghe depend on Danube Delta's natural resources, mainly on anadromous migratory fish, including Pontic shad and sturgeon, as well as coastal fishing for small species such as sprat and anchovy.

One of the most important observations is that maritime planning in the coastal zone is more influenced by the socio-economical systems, with a slight difference comparing to the natural capital, although the area is one of the most important protected areas (both Marine Protected Area and Special Protected Area as part of Danube Delta Natura 2000 site).

The active involvement of stakeholders proved to be a success for Sfantu Gheorghe case study, assuring a good cooperation process with different stakeholders and experts, raising awareness among stakeholders related to a sustainable use of their coastal area and their particular landscape. The success of this approach was assured as well because of the

interdisciplinary topics debated during the design workshop, combining and integrated thus, the land planning with biodiversity, social and economic aspects.

The results presented above emphasize a future possibility of territorial development and coastal protection for the Sfantu Gheorghe coastal area, in accordance with MSP Directive.

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Eugenia Marin: is currently a PhD student in Geography, with 11 years of experience as scientific researcher within the DDNI. Her area of competence within DDNI is human geography, socio-economic analyses, public participatory approaches, stakeholder analyses and cultural landscape assessments. She coordinated the national project “Study of socio-ecologic systems in Danube Delta Biosphere Reserve” from 2015-2017 and has a broad participation as collaborator national and international projects.

Iulian Nichersu: is senior researcher, doctor in Geography with 32 years of experience within the Danube Delta National Institute for Research and Development. He has expertise in GIS, spatial planning, maritime policies, cartography, geomatics and biodiversity conservation projects of special wetland areas from the Lower Danube Floodplain – Romanian sector and Danube Delta. At present he is Scientific Director of the Danube Delta National Research and Development Institute, coordinates the Romanian participation in 3 projects Horizon 2020 - ResponSeable https://www.responseable.eu/ , SCENT https://scent-project.eu/ , FloodServ http://www.floodserv-project.eu/.

Florentina Sela: human geography, specialist graduated in 2007 "Ovidius" University of Constanta - Faculty of Natural and Agricultural Sciences. She took the diploma as a Master in Geography -

Geographical risks and territorial planning in 2009 and from 2016 is a PhD. student at Doctoral School "SIMON MEHEDINȚI", Faculty of Geography, University of Bucharest. She works in Danube Delta National Institute since 2007 as Scientific Researcher III in geography, in Department of Biodiversity Conservation and Sustainable Use of Natural Resources – Socio-Economics & Humanities.

Iuliana Nichersu: is Magna cum Laude Ph.D in Spatial Planning (Urban and Regional Development) and Hydraulics, 2014. She graduated Civil Engineering Faculty in 2009 at the Technical University of Constructions Bucharest, first in her class, and followed a Master in Urban Engineering and Regional Development, with maximum grades for the final thesis (with the title: "Spatial Planning and Regional Development" and an application study on flood risk spatial planning in the context of European policies). For the past 8 years within DDNI she has been working in international projects related to spatial planning, urban and regional development, resource and energy efficiency, climate and environment fields.

Marian Mierla: has obtained the PhD degree in geography in 2013. He works for Danube Delta National Institute for Research and Development from Tulcea within the Department of Informational System and Geomatics. His main activity comprises in building geodatabases, processing geographical information, remote sensing and hydrometrical surveys (bathymetrical surveys). He is member of the International Association for Danube research (IAD).

Cristian Trifanov: age 34, presently PhD student in Geography – River Morphology, with 10 years of scientific experience as senior researcher at DDNI in Geomorphology and Geomatics, have been engaged in hydro-geomatics surveys, map production, analyze and design for several scientific projects like "Danube Floodrisk", "Natura 2000", GIS collaborator for European Topic Centre on Spatial Information and Analysis (EEA), with a broad participation as collaborator for various environmental scientific projects, workshops and symposiums and also published over 40 scientific paper.