

## CAMP Montenegro

# Final Project Report







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The final project report takes into account methodology, structure and obligations that have been defined in the Inception report. It is the initial basic document that was prepared in the scope of the CAMP Montenegro. The purpose of the Report was to secure integration and provide detailed instructions for the implementation of the project, both at the project level and at the level of individual project activities.

The Inception Report was presented at the Inception Conference that was organized on 22<sup>nd</sup> March 2012. The Inception Report as the initial basic document of the CAMP Montenegro detailed the project objectives, strategy and phasing, and described the project structure, institutional arrangements and staffing, specified expected results and outcomes of the project, as well as methodologies and tools to be applied, the work plan and timetable for each activity, alongside with the monitoring procedures. A Logical Framework Analysis was used to describe the project activities. The Inception Report also entailed ToRs for specific horizontal and individual activities. The Inception Report defines two main outcomes of CAMP Montenegro: The Plan on Integrated Coastal Zone Management (ICZM Plan) and the National Strategy on ICZM (NS ICZM).

The final report has the aim to present progress achieved in the implementation of CAMP activities. It takes account to the structure of the process that is determined in the Inception report and provides detailed assessment of the results and outcomes of the project, success in applying defined methodologies and tools as well as in implementing project activities and meeting the deadlines.

It details success in realization of horizontal and individual project activities alongside with the review of the Work Plan and Timetables that have been defined in the Inception Report. In this way the assessment of the performance of the entire complex process of CAMP implementation is enabled through comparison of the results achieved with the Inception report baseline, its objectives, activities, actions and outcomes defined at the beginning of the project in 2011.

Through progress presented in such a manner it is possible to monitor the changes that are generated so far in the institutional, legal and policy framework during project realization, as well as changes within the usual patterns of behaviour, raising awareness on the significance of sustainable and integrated coastal zone management, and in final, real changes that have occurred in the project area.

## General information on CAMP Montenegro

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### 1.1 Reasons to launch the programme and project goals and objectives

The Coastal Area Management Programme (CAMP) projects supported by the Mediterranean Action Plan (MAP) promote Coastal Zone Management (ICZM) as a tool to ensure that a variety of human activities in the coastal areas are co-ordinated and managed for the achievement of sustainability goals of coastal area development. It is implemented jointly by MAP and the Montenegrin Ministry of Sustainable Development and Tourism (MSDT), with the involvement of 6 local municipalities in coastal region, expert and scientific institutions, relevant NGO sector and other stakeholder groups.

Initial steps in developing the CAMP Montenegro were taken in 2005, when the Contracting Parties to the Barcelona Convention approved the decision to carry out the CAMP Project for Montenegro at their 14<sup>th</sup> Ordinary Meeting (held on 8 – 11 November 2005 in Portorož, Slovenia), following a request presented by the Government of Montenegro. The decision to start with the initiation of the CAMP Montenegro was adopted at the meeting in Split, on 18 – 19 December 2006. The Feasibility Study (FS) was prepared in the period December 2007 – May 2008.

Based on the findings of the CAMP Feasibility Study and subsequent developments, as well as on the discussions with the then Ministry of Spatial Planning and Environment (a predecessor of MSDT) and other relevant national institutions from February 2010, a draft CAMP Project Agreement was prepared. The draft Project Agreement was adjusted in spring 2011 to take

into account a number of initiatives and pre-CAMP activities that were implemented in the period 2010 – 2011. The Agreement on Coastal Area Management Programme (CAMP) – the Project for Montenegro was signed between UNEP/MAP and MSDT, on 30<sup>th</sup> of May 2011, in Miločer/Budva.

The project area comprises territories of six coastal municipalities – Herceg Novi, Kotor, Tivat, Budva, Bar and Ulcinj – with the total surface of 1,591 km<sup>2</sup> and internal waters and territorial sea with the surface of around 2,500 km<sup>2</sup>. Some of the typical natural features of the coastal area include a diversified geological composition and complex geotectonic structure, plain coastal areas/fields and beaches, steep elevations of Orjen, Lovćen and Rumija mountains, short watercourses and the exquisite Bay of Boka with several smaller bays. According to the relevant spatial plans, the total length of the mainland seashore is 288.2 km (out of which 105.5 km in the Bay of Boka). The islands' shores are 25.6 km long, while the length of the shore along the river Bojana is 22.8 km.

The CAMP activities were implemented in period September 2011–December 2014. The post implementation phase that includes a number of activities has been launched in January 2015 and is now in the progress.

In a period when CAMP Montenegro was launched the following main problems in the CAMP area were singled out:

- Institutional and legal frameworks are complex, competencies are not always clearly delineated while horizontal and vertical co-ordination between different parts of administration is insufficient; there is a room



for improvement when it comes to participation of different stakeholders in policy making.

- Integrated or ecosystem-based approaches are not at the core of the planning system (including the spatial planning); sectoral approaches are still prevalent, which exacerbates conflicts between environment and development.
- Capacity for the application of ICZM tools and mechanisms is limited; awareness and specific knowledge needed to ensure sustainable development are insufficient, while information on environmental aspects of coastal processes is often incomplete or lacking altogether.
- There are strong pressures on coastal environment, primarily from urbanization and tourism development.
- Harmonisation of national and local level spatial plans, as well as integration of ICZM Protocol requirements into the spatial plans is a challenge.
- Valuable marine and terrestrial ecosystems and cultural heritage at the coast are in various ways threatened by the current and planned development.
- Pollution from land-based sources (including waste, wastewater and industry) as well as from maritime activities needs to be more efficiently prevented / controlled.

In response to the above, the CAMP Montenegro activities were aimed to develop, apply and demonstrate methods, concepts and tools to address existing and future management problems in the coastal area. The CAMP Montenegro belongs to a new generation of CAMP programmes that are created to strengthen national capacities towards implementation of the ICZM Protocol. At the same time, the CAMP Montenegro was based on the need to create synergy in implementing the ICZM and other MAP strategic priorities and

orientations, in particular those defined in the SAP BIO and SAP MED. The ecosystem approach and the EU Marine Strategy goals were also among the most important priorities to be taken into account.

The **overall objective of CAMP Montenegro** was to support, facilitate and propagate the efforts towards the integrated management in the project area as to provide for environmental protection and sustainable development.

The objectives of the CAMP Montenegro were defined in accordance with the national legislation, plans and programmes, identified issues in managing the coastal zone, proposals and needs of national and local institutions responsible for the coastal zone management, as well as in line with the general objectives of the MAP. The main objectives of the CAMP Montenegro were also formulated in line with **general objectives** of all CAMP projects that are as follows:

- to develop strategies and procedures for sustainable development in a project area, with a view to implementing specifically the ICZM Protocol;
- to identify and apply relevant methodologies and tools;
- to contribute to the capacity building at local, national and regional levels;
- to secure a wider use of the results achieved in the region.

In line with overall and general, **the specific objectives** of CAMP were:

- to create necessary mechanisms that can help achieve sustainable development of the coastal area;
- to support implementation of national policies and the ICZM Protocol;
- to promote the integrated and participatory planning and management in the coastal area;
- to build the national and local capacities for ICZM and raise awareness of the importance

of the coastal area, complexity and fragility of its ecosystems and of the need for integrated approaches in managing them; and

- to facilitate the transfer of knowledge on ICZM tools and approaches.

The project strategy was based on the methodology of ICZM, while the project was implemented within the existing national and local legal and planning framework and having in mind the European standards and practice, using as the basic inputs the existing planning and development-related documents, available information on natural resources, socio-economic conditions, problems, causes, sources and impacts of pollution. The project also collated, analysed and interpreted the existing data to aid spatial planning processes and sustainable land-use decisions.

## 1.2 Institutional arrangement and project staffing

CAMP Montenegro institutional arrangement was organized at two levels:

- at the project level; and
- at the level of each individual project activity.

The institutional arrangements **at the project level**, as defined by the Project Agreement and described in Inception Report was as follows:

**The MAP component:** The Co-ordinating Unit of MAP (MEDU) guided and supervised over the implementation of the Project. PAP/RAC, as the MAP Project Implementing Centre, was responsible for co-ordination, guidance and implementation of the Project, in co-operation with Montenegrin national and local authorities. Furthermore, PAP/RAC co-ordinated activities with other MAP components involved in the Project with the assistance of the National Project Co-ordinator. Finally, it was responsible for the co-ordination of preparation of the final Project documents.

Other MAP components involved in the Project were SPA/RAC, MEDPOL and SCP/RAC. They supported implementation of respective individual activities, under the logistical co-ordination of PAP/RAC, and overall co-ordination of the National Project Co-ordinator, with participation of relevant national authorities/institutions responsible for the respective activities.

The staffing of the MAP component was as follows:

- MAP Project Co-ordinator – Ms. Marina Marković, Programme Officer, PAP/RAC;
- SPA/RAC Team Leader – Mr. Daniel Cebrian, Programme Officer;
- CP/RAC Team Leader – Mr. Roger Garcia, Deputy Director;
- MEDPOL Team Leader – Ms. Tatiana Hema, Programme Officer.

**Project Coordination Unit** was established in MSDT, in its roles of the National Focal Point for MAP and the National Lead Agency for the CAMP Montenegro. It was responsible for overall supervision and guidance of the Project activities in the country and of those implemented by national participants, in co-operation with the MAP.

The staffing of the national components was as follows:

- Political guidance and supervision of the project activities – Mr. Branimir Gvozdenović, Minister of Sustainable Development and Tourism;
- National Project Co-ordinator – Ms. Jelena Knežević, MAP Focal Point, MSDT;
- Project Assistant – Mr. Andrej Lakić;
- Administrative support – Mr. Borko Vulikić, Programme Officer at UNDP Montenegro;
- National Project Steering Committee:
  - **Chairperson:**
    - Ms. Sanja Lješević, Deputy Minister for Spatial Planning, MSDT

- **Members:**

- Ms. Jelena Knežević, Adviser to the Minister, Head of Department for Sustainable Development, MAP Focal Point, MSDT;
- Ms. Marina Marković, Programme Officer, PAP/RAC;
- Ms. Ivana Vojinović, Deputy Minister for Environmental Protection, MSDT (Ms. Ana Pavičević and Ms. Marina Spahić, alternative members);
- Ms. Željka Radak Kukavičić, Deputy Minister for Tourism Strategy, Policy and Special Tourism Forms, MSDT;
- Mr. Vladan Dubljević Deputy Minister, Ministry of Economy (exploitation of resources in the coastal area);
- Ms. Lidija Ljesar, Deputy Minister, Ministry of Culture (Mr. Aleksandar Dajković, alternative member);
- Mr. Rajko Barović, Director, Public Enterprise for Coastal Zone Management of Montenegro (Mr. Dragan Marković, Deputy Director, Alternative Member);
- Ms. Maja Jovović Smitdh, Senior Adviser, Ministry of Foreign Affairs and European Integrations (regional and multilateral initiatives in the coastal zone);
- Ms. Ana Kusovac, Senior Adviser in the Ministry of Transport and Maritime Affairs;
- Mr. Srđan Mugoša and Ms. Nataša Božović, Adviser, Ministry of Agriculture and Rural Development;
- Mr. Đžaudet Cakuli, at later stage Mr. Ardijan Mavrić, Vice Mayor of Municipality of Ulcinj;
- Ms. Dragan Dedić, Adviser to Mayor for Urbanism, Municipality of Bar;
- Ms. Tatjana Jelica, Secretary of the Secretariat for urban planning and environment, Municipality of Tivat;
- Ms. Danijela Jablan, Senior Adviser for Spatial Planning, Municipality of Kotor;

- Ms. Andja Popović, Senior Adviser responsible for the Environment, Municipality of Budva;
- Ms. Milovan Bazdar, Secretary of the Secretariat for urban planning, Municipality of Herceg Novi;

The General Directorate for Spatial Planning in MSDT had a prominent role in realization of CAMP Montenegro due to close interconnection of CAMP activities with the process of drafting a new Coastal Area Spatial Plan and accompanying reform of the institutional and legislative framework in the field of spatial planning. Ms. Vojislavka Djurdjic, Mr. Stevo Davidović and Ms. Marina IZgarević has highly contributed to achievement of CAMP results.

- The Steering Committee (SC) for the CAMP Montenegro and the NS ICZM has been created with the aim to provide the overall guidance for the Project. This body was composed of the representatives of MSDT, MAP – PAP/RAC, representatives of other relevant ministries (including transport and maritime affairs, economy, foreign affairs and European integrations, agriculture and rural development, health and culture) and Public Enterprise for the Coastal Zone Management. It included the representatives of the coastal municipalities and an UNDP representative (due to fact UNDP provided administrative and partially technical/expert support to CAMP implementation). Three meetings of the SC have been organized during the project under chairmanship of Ms. Daliborka Pejović, State secretary in MSDT and Ms. Sanja Lješević, who was acting as the General Director for Spatial Planning in MSDT. The documents that regulate the working procedure and decision making under umbrella of the SC have been defined and approved. Report from the SC sessions are presented in Participatory Report.
- Advisory Board was defined to provide expert support to the Steering Committee. The

Composition of the Advisory Board (AB) was defined in the Inception Report in order to provide expert support to the Steering Committee through involvement of the representatives of the management agencies and professional/scientific institutions including the Public Enterprise for the Coastal Zone Management, the Environmental Protection Agency, the Nature Protection Institute, the Hydro-meteorological Institute, and the Marine Biology Institute, as well as the coastal municipalities and the civil sector and CAMP National Project Coordinator.

Taking into account the number of members of the SC and AB, the special meetings of the AB were not organized as to increase efficiency of the entire process. Instead AB members were involved in a consultation in the frame of Task Groups and if necessary individual professional consultations on the issues concerned in the framework of implementation of CAMP activities

The institutional arrangements at the level of individual project activities have been created following the concept that is defined in the Inception Report. It is mainly based on the above presented organizational structure.

In line with the Co-operation Agreement between MSDT and UNDP Montenegro signed on 1 November 2011 and UNDP's Project Document annexed to this Agreement, the UNDP Montenegro provided administrative support to execution of CAMP activities. This arrangement was made due to the fact that MSDT's capacities were limited and that UNDP was able and willing to provide contribution to project administration and financial management of the national CAMP budget in line with the UNDP rules and procedures. UNDP also provided in-kind contribution to the CAMP through the implementation of own activities complementary to those of the CAMP Montenegro, as well as to the support of a short term expert analyse on mapping the habitats at 3 locations selected as the priority ones. UNDP

acted in co-ordination with and under supervision of the National Project Co-ordinator.

The institutional arrangements **at the level of individual project activities** were organized as follows:

***The MAP component:***

- MAP Project Co-ordinator;
- MAP experts involved in the implementation of the activity, if and as required.

***The National component:***

- National CAMP Project Co-ordinator and National Project Unit in MSDT;
- National Teams of Experts organized in Task Groups and tasked with the implementation of various activities, composed of experts and professionals.

The consultations with relevant institutions and individual experts have been organized as to create and provide the functionality of the expert Task Groups. The consultative process resulted with establishment of the following expert Task Groups:

- The Task Group for hydrogeology, soil erosion and seismic risks that was led by the Institute for Geology;
- The Task Group for hydrology, water quality, coastal process and climate vulnerability that was led by the Institute for Hydrometeorology and Seismic of Montenegro;
- The Task Group for Biodiversity composed of the eminent national biodiversity experts; Mr. Vasilije Bušković, MSc, biodiversity and nature protection, was the leader of the group, while at later stage Ms. Danka Petrović, PhD, Professor at Faculty of Biology, University of Montenegro, gave significant contribution; A number of biodiversity experts employed in Agency for Environmental Protection and MSDT contributed to the process in a form of

regular consultations in all phases of project activities development.

- The Task Group for Socio-economic Analysis composed of the CEED group of senior and junior experts; Ms. Dragana Radević, PhD, economy, professor at University of Donja Gorica, was the leader of the group, under whose guidance and supervision a number of CEED associated experts were engaged.
- The Task Group for development of the models for Vulnerability, Suitability and Attractiveness that was led by MSc Jelena Knežević, inorganic technology engineer, CAMP National Project Coordinator; This group was composed of 2 expert groups:
  - The Expert Group that is settled in Hydrometeorological Institute (HMI) was composed of:
    - Darko Novaković, engineer, hydrology
    - MSc Pavle Đurašković, physical chemist, water quality
    - MSc Ana Mišurović, MSc, ecotoxicology chemistry specialist, independent consultant
    - MSc Mirjana Ivanov, meteorologist, climate change
    - Dušan Slavnić, engineer, hydrography
    - Ivana Pavićević, biologist, administrative coordination of the expert team in HMI
  - The Expert Group that was settled in Geological Institute of Montenegro was composed of:
    - MSc Dragan Radojević, MSc, engineer, geology and hydrology
    - Budimir Fuštić, PhD, soil erosion and pedology, independent consultant
    - Branislav Glavatović, PhD, seismic hazard.
- The Task Group for Built up Assessment and Coastal Setback Elaboration that was led by MSc Gojko Berlengi, architect, the Leading Expert for built up assessment and Marina Marković, PAP/RAC Project Coordinator; This Group continuously cooperated with the team of RZUP, as SPSPCZ MNE developer and General Directorate for Spatial Planning in MSDT, under guidance of National CAMP Project Co-ordinator.
- The Task Group for Attractiveness and Suitability of the Agriculture was composed of:
  - Prof Aleš Mlakar, PhD, landscape architect
  - Milan Marković, Associate Professor, PhD
  - Biljana Lazović, Senior Research Fellow, PhD
  - Dragana Radević, CEED Consulting, PhD, Senior Lecturer
  - Jelena Knežević, Inorganic Technology Engineer, MSc, MSDT
  - Jovana Stojković, CEED Consulting, MSc
  - Darko Pekić, CEED Consulting, MSc
  - Vesna Bojanović, CEED Consulting, Bachelor of Economics

This Task group has worked under expert guidance and supervision of prof Ales Mlakar.

- The Task Group for GIS was led by Gojko Nikolić, PhD, GIS leading expert, with participation of Marina Izgarević, engineer, spatial planning and Miloš Vujisić, data manager. At the second phase GIS data base has been developed by professor Martina Baučić, engineer, geodesy, PAP RAC expert.
- Technical support was provided through the Task Group composed of:
  - Branka Barić, English and German language teacher, PAP/ RAC
  - Azra Haverić, sociologist (in first year of project implementation)
  - Marina Izgarević, engineer
  - Andrej Lakić, political scientist
  - Prof Gojko Nikolić
  - MSc Slobodan Pavasović, mathematician, PAP/ RAC consultant
  - Miloš Vujisić, IT expert.

Task group has worked under expert supervision of the leading consultant Assist. Prof Aleš Mlakar, landscape architect, with technical support provided by Nika Cigoj Sitar, landscape architect.

The task groups have been created in accordance with the needs and challenges of the CAMP process that were determined in consultation of MSDT and PAP/RAC bearing in mind the structure of the host country component that was proposed in Inception Report as follows:

- National Project Co-ordinator;
- National Team Leaders responsible for various activities; and
- National Teams tasked with the implementation of various activities, composed of experts and professionals.

In order to ensure active institutional participation, relevant national institutions with responsibilities in thematic areas led each Task Group. The leading institutions then nominated their leading representative and other representatives, with the involvement of other members as the representatives of other relevant institutions or individual independent experts. This ensured the credibility of input data and analysis and formal verification of results of the expert teams from the relevant national entities.

The CAMP National Coordinator under supervision of the PAP/RAC Project Coordinator enables coordination, provides guidelines and management of the Task Groups, including continual monitoring and reporting on their activities and participated as the expert team member. The selection of the experts to compose the Task Groups has been realized in accordance with the UNDP procedures due to the fact UNDP provides administrative support to CAMP realization in accordance with the Agreement between UNDP and Government of Montenegro.

The National Coordinator, MAP professionals and consultants participated in realization of CAMP activities in accordance with their respective ToRs. The area of consultancy needed and the selection of the consultant were defined through Technical Specifications (Terms of

References) for CAMP activities which were provided in the Annexes to the Inception Report. The elaboration of specific project activities needs were done in related ToRs based on a detailed and in-depth analysis that preceded the implementation of individual project activities.

### 1.3 Phasing of the Project

Phasing of the project followed the approach incorporated in the ICZM methodology and defined in the Inception Report:

#### Stage I – Initiation:

- Preparatory activities (diagnostic analysis, definition of the project).

#### Stage II – Formulation:

- Signing of the Agreement;
- Initial data collection;
- Meeting the prerequisites for the project implementation;
- Draft Technical Specifications;
- Draft Inception Report;
- Inception Workshop/Final Inception Report;
- Progress reporting.

#### Stage III – Implementation:

- Initial implementation activities, including the preparation of the final version of the Technical Specifications for individual activities;
- Implementation of individual activities;
- Integration of the results, including the preparation of the National Strategy on Integrated Coastal Zone Management and Final Project Report;
- Presentation of the results.

#### Stage IV – Post Project Activities:

- Formulation and implementation of the follow-up activities;
- Monitoring and reporting;
- Presentation and use of the results at the MAP level.

## Project structure and activities

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As it is determined in the Inception Report the CAMP Montenegro is designed to encompass two major components with a set of activities and sub-activities. The main components are:

**A. Horizontal activities;**

**B. Individual activities.**

The breakdown of all activities, as presented in the CAMP Agreement, is provided in Box 1.

**Box 1: CAMP Montenegro structure (as presented in the CAMP Agreement)**

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**A. Horizontal activities**

1. Project co-ordination, integration and dissemination of results
2. Training / capacity building
3. Awareness raising

**B. Individual activities**

1. Support for the Coastal Area Spatial Plan (SPSPCZ MNE) of Montenegro and the ICZM framework setup
    - 1.1 Analysis of implications of the ICZM Protocol for spatial planning
    - 1.2 ICZM/SPSPCZ MNE baseline studies enabling the integration of the ICZM principles
  2. ICZM Plan
    - 2.1 ICZM institutional-legislative framework setup
    - 2.2 Harmonisation of SPSPCZ MNE with the ICZM Plan
- 

In order to provide a more elaborated distribution of CAMP activities, these were broken into more detailed project activities in Inception report. Compared to the Inception report a key change in project activities was caused by decision to prepare the National Strategy on Integrated Coastal Zone Management (NS ICZM) with the action plan and a chapter that elaborates implementation of SPSPCZ MNE's, through the application of instruments of spatial planning and land management policy instead of the NS ICZM Strategy and the ICZM plan. The reason for that is a necessity to define a concise ICZM policy framework that additionally does not increase complexity of the national policy framework of

relevance for coastal area that is already composed of a large number of strategies, programs and action plans.

Compared to the Inception report another most important change is related to application of the selected indicators for monitoring and evaluating sustainability of spatial development of the coastal zone of Montenegro - Built up Assessment of the Coastal Area of Montenegro, as to provide extensive expert support to spatial planning teams that were responsible for SPSPCZ MNE development, but also for the spatial plans of coastal municipalities, as well as to employees in MSDT who were responsible for development and implementation of legislative and policy framework in the field of spatial planning. In

such a manner project activities B 1.1, B1.2, B1.3, B2.1 and B.2.3 have been significantly expanded compared to the content and deadlines for execution of project tasks that were defined in the Inception report.

Taking into account such a determined scope of activities, detailed project activities have been determined and implemented as it is presented below.



## **A. Horizontal activities**

The Inception report grouped horizontal activities as follows:

1. Project co-ordination, integration and dissemination of results;
2. Training / capacity building;
3. Public participation and awareness raising.



## A 1 Project co-ordination, integration and dissemination of results

The overall **goal** of this activity was to secure a harmonised, timely and cost-effective implementation of the project in accordance with the Project Agreement.

The main **objectives** were:

- to formulate and to implement the project;
- to harmonise project activities;
- to guide and assist the National Team Leaders;
- to provide for a co-ordination with related projects and activities;
- to integrate all project activities.

**Actions** that were implemented included:

- establishment of the institutional structure, Project Steering Committee and the Advisory Board;
- preparation of the Inception Report; assistance to, and supervision of the preparation of Technical Specifications, preparation of TORs for consultants;
- organisation of the Inception Conference, as an initial training for the Team Leaders and national representatives involved in the project;
- actions related to meeting the prerequisites for the implementation, evaluation and reporting;
- provision of logistical assistance, financial procedures, supervision and verification of expenditures incurred;
- securing flows of information and feedback related to data collected and other results of individual activities;
- harmonisation of activities;
- proposing a revision of objectives, timetable, and the programme, if needed;

- revision of drafts and clearance of the final outputs of individual activities;
- preparation of the final project documents;
- presentation of project results;
- proposal of the follow-up activities;
- reporting on the progress, and preparing the Project Terminal Report and Self-Evaluation Facts Sheet.

As the **outputs** the following were defined:

- general co-ordination, the established project structure and institutional arrangements;
- co-ordinating missions reports;
- Report of the Inception Conference;
- Progress Reports;
- Final Integrated Project Document, Follow-up proposals;
- Report of the Presentation Conference, Conference Documents;
- Project Terminal Report and Self-Evaluation Facts Sheet.

### *CAMP response*

Under activity 1.2 Institutional arrangement and staffing project the institutional arrangement of CAMP Montenegro is detailed. All tasks, objectives, activities and outcomes that have been defined Inception report are achieved. A detailed description of the structure of Steering Committee, Advisory Committee and Task Groups are detailed above in 1.2. During the entire process, bi-monthly reports have been regularly prepared by CAMP project coordinator. In addition to the progress in project realization, the problems project team faced with, the ways to overcome them, all bi monthly reports contain information about compatible management of the process of SPSPCZ MNE preparation. Bi-monthly reports also included progress in the realization of projects that are compatible CAMP, primarily MedPartnership supported projects such as the preparation of

the Integrated Resource Plan for Management of the Buna / Bojana area, and other relevant projects such as those realized by SPA/RAC with regard to marine biodiversity mapping at selected locations, or project on Development of Master Plan for Greening/Bluing Economy in Boka Kotorska Bay that was initiated by MSDT through bilateral cooperation with Italian Ministry for Environment, Land and Sea as to support CAMP activities.

An important facet of the implementation of project activities were a number of meetings of the expert team, but also meeting that were held within the framework of participatory and consultative process, as well as meetings of the Steering Committee. At the *First meeting of the Steering Committee*, held in July 2012, attended by 19 members of the Committee, the process of CAMP implementation and of the NS ICZM drafting were presented and their relevance for drafting of the Special Purpose Spatial Plan for the Coastal Area highlighted. Also, the Committee saw the presentation of the cross-border project on drafting „Integral Management Plan for the Bojana/Buna river“. The presentation of some issues set on the agenda of the meeting was followed by the discussion when participants expressed their unreserved support to the realization of the project of integral coastal management in Montenegro.

At the *second Steering Committee meeting* of April 2013, some 15 Committee members, 3 CAMP project experts, 2 observers coming from UNDP office and 3 project assistants took part. CAMP project (together with the preparatory activities for drafting the NS ICZM MNE) was presented through its results from previous period and what followed was the presentation of results received from the Vulnerability analysis and Construction Analysis for the coastal region and the formulation of recommendations for determining a coastal setback.

*Third CAMP project Steering Committee meeting* was held in November 2014. The meeting was attended by 12 Steering Committee members and two project assistants. The structure of National Strategy for Integrated Coastal Zone Management of Montenegro together with its significance, objectives and priorities were presented at the meeting. Besides that, the meeting discussed the approach that was applied in identification of the problem and defining of responses to identified problems. Some six thematic areas were presented and the essential aspects of the Strategy itself. In the end, the participants saw the presentation of the proposed chief indicators for monitoring the implementation of the NS ICZM MNE, together with the outcomes by year 2020. A detailed presentation was followed by the discussion on the NS ICZM MNE.

## A 2 Training – capacity building

The **goal** of this activity was to strengthen capacities of the local and national administrations, the planning, natural resources management, tourism development and monitoring institutions as well as of the private sector (industry, SMEs) for integrated planning, cleaner production and coastal zone monitoring. The specific **objectives** were to:

- provide for a transfer of knowledge on the use of different ICZM-related instruments, tools and approaches for sustainable development;
- organise appropriate trainings and produce training materials.

It was defined to implement following **actions**:

- organisation of a series of trainings within the three main modules:
  - Module 1: Integrated Coastal Zone Management concepts and tools (comprising two major trainings on i) general ICZM principles and the ICZM

- Protocol, and ii) on Carrying Capacity Assessment (CCA) or other specific tools that are found relevant and appropriate;
- Module 2: Cleaner production (cleaner production mechanisms, available tools for industries, SMEs, services businesses to reduce pollution and use resources more efficiently, ecotourism resources included; presentation of the Green Entrepreneurship opportunities);
  - Module 3: Information on ecosystem approach (ECAP), monitoring and indicators and the ECAP integration into the ICZM (MEDPOL methodology, ICZM Protocol and EEA requirements on coastal zone indicators);
- preparation of training materials.

Expected **outputs** from this activity were:

- reports from the training courses;
- training materials and recommendations on future individual capacity development needs.

### **CAMP response**

The approach to the realization of three modules for training activities has been modified within this activity. Namely, the scope of proposed activities in certain areas and the timeframe for their implementation was modified as a result of the extension of individual activities. Initial modules have been integrated into the programs for the realization of individual activities. Special attention was given to strengthening capacities for the implementation of ICZM instruments, primarily of those important for environmental sensitive spatial planning.

Therefore realization of the vulnerability, suitability and attractiveness assessment was followed with organization of a number of meetings with national team as to inform them on the methodology and to commonly define criteria and related concept for its application into national context. Introduction of

vulnerability, suitability and attractiveness was not realized by applying ready model, but it was developed through deep think-thank consultation process among expert team members, selection and prioritization of the concept that was found as the most suitable for national circumstances.

Another capacity building and training package was related to the assessment of the status and transformation of the spatial planning system of Montenegro. Introduction of the methodology for built up assessment by organizing a number of capacity building workshops and working meetings with the aim to build capacities of spatial planners responsible for development of the SPSPCZ MNE and spatial plans for coastal municipalities that were performed in parallel with SPSPCZ MNE development. The application of the methodology to make built up assessment and to apply sustainability indicators for spatial planning of the coastal area space created a core set of training programmes.

Another important set of capacity building actions was related to development and application of coastal setback. It required organization of the consultation meetings with representatives of state administration-spatial planning unit in MSDT, and later on presentation of the methodology, importance and role of the setback instrument and its implication on urbanisation and economic valorisation of the most valuable narrow coastal area.

The most significant component of the capacity building programme was related to support that CAMP expert team provided to spatial planning team of SPSPCZ MNE by:

- making the review assessments of the SPSPCZ MNE outputs and at final phase four drafts of SPSPCZ MNE; and
- providing the recommendations for improvement of the process of SPSPCZ MNE development.

Each review assessment required full engagement of the CAMP core expert team with the aim to provide deep revisions and amendments of SPSPCZ MNE and related documentation. In the initial phase of the implementation stage of CAMP activities, expert team organized a number of training programmes including preparation of related guidelines and working packages with detailed directions for their practical application.

The activities focused on developing data base of the CAMP project comprising both analytical and cartographic stock of data was a challenge in its own right. It became a challenge primarily for technical limitation coming from the fact that the MSDT did not have an appropriate software platform but also for the fact that the tools for the application of the software platform for the development of database and for open access to the geo-portal were limited. That is why the database with geo-portal was developed in free technology GeoNode, PostgreSQL and Linux. In relation to that in the trainings on the use of liberal QuantumGIS (free GIS program) were delivered in the final stage of the CAMP program and they included the following activities:

- data and layer browsing;
- maps production by combining CAMP database layers;
- adaptation of layer transparency;
- layer download in one of the standard formats: shp, gml, kml, csv, jpg, pdf.

The listed training programs were delivered to the staff of MSDT, the public institutions that are CAMP beneficiaries and local self-governments.

Special instructions were made for handling CAMP data base in widely applicable dwg format for AutoCAD and other CAD programs, ESRI format for use in ArcGIS program and QGIS format to be used in Quantum GIS program. For the purpose of building capacity to use prepared material, the trainings were delivered to the team of SPSPCZ MNE planners and to the teams

of planners responsible for developing planning documentation at local level.

An integral part of the capacity building program were workshops related to the participation of SCP/RAC in CAMP activities focused on developing eco-tourism and its integration into the system for integrated management of the Boka Kotorska region with the objective to contribute to achieving good environmental parameters of the given region.

In relation to three modules for strengthening capacities spelt out in the Inception Report, the first module was expanded from the aspect of the implementation of key ICZM tools, where those pertaining to sustainable spatial planning were given priority.

Additional module was integrated into this undertaking and it concerned building capacities of SPSPCZ team of experts for the implementation of the CAMP results. Also, a special module was developed for CAMP data base application in its Quantum GIS program. Initially planned training modules for the use of EcAp and sustainable consumption were not delivered due to the financial concerns related to the pilot project for the application of EcAp in the Boka Bay and related limited scope of project activities in the realization of this pilot project.

### A 3 Public participation and awareness raising

The general **goal** of this activity was to allow for participation and involvement of the public in all the project activities, to disseminate information on coastal area values and vulnerabilities and to promote sustainable development approaches among the general public. Since the public participation process was created to ensure that all relevant stakeholders are involved in formulation of project activities, setting of vision, goals, objectives, indicators and definition

of expected results, as well as to provide for their participation in the verification of the main outcomes, the extension of the public participation process was planned through a number of main workshops, depending on the availability of the financial resources.

The key **objectives** were defined as follows:

- ensure that all the stakeholders are involved in the formulation of project activities, setting of goals, vision, objectives, indicators and in the definition of expected results, as well as in the verification of individual outputs.
- raise awareness of the importance of sustainable management in the coastal area;
- emphasise values and fragility of coastal ecosystems and natural resources; and
- promote the ICZM Protocol and respective Barcelona Convention Protocols, and decrease resistance to some ICZM instruments that could be perceived as an obstacle to development.

**Under this activity the following actions** were planned for implementation:

- defining the public participation methodology to present and to collect the relevant guidelines and recommendations from a broad spectrum of stakeholders, and to provide expert evaluation of stakeholder contribution, based on the best public participation experience and positive examples;
- organising the public participation process having as the core set of action a number of main workshops that are tailor-made around the main phases of the individual activities: presentation / consideration of the draft sectoral (baseline) outputs; presentation / consideration of the vulnerability assessment result; discussing the vision, objectives, indicators and development scenarios; discussing the possible measures for the ICZM Plan implementation and follow-up activities;

- designing and executing an awareness-raising campaign, mainly through the organisation of the Coast Day event in Montenegro with the involvement of media and possibly NGOs, preparation of awareness-raising materials, etc. The campaign will focus on the implementation of the ICZM Protocol and will address the general population, with a special subset of activities for youth. The project awareness-raising activities will be in line with the on-going initiatives in the Mediterranean;
- setting up of the CAMP Montenegro website.

As the expected **outputs** from this activity were defined the following:

- workshop reports;
- public participation reports, including the stakeholder analysis;
- media reports, advertisements, information on the coastal area, promotional materials and publications (such as a leaflet or a brochure);
- reports on the promotional activities and events possibly organised and led by NGOs to promote ICZM and coastal area values;
- the CAMP Montenegro website (in Montenegrin and English).

### **CAMP response**

#### ***The participatory process for the NS ICZM***

In compliance with the Regulation on the Procedure and Manner of Conducting Public Consultations in the process of drafting law and the Protocol on ICZM, **consultation with interested public** were deemed an integral part of the process of drafting the NS ICZM MNE. The Programme of the Participatory Process was developed in April 2014 in compatibility with the Position Paper. This document defines the list of the participants and focus groups, methodology for realization of the participatory consultations and time frame. The Programme of Participatory Process was concluded upon conclusion of the

extensive desk work that has been realized by PAP/RAC Programme Officer, CAMP National Project Coordinator and CEED expert team. The focus was on the improvement of the methodology for realization of the participatory process, recognition of the stakeholder list and integration of the analysis of the institutional and legislative framework.

CAMP expert team prepared public consultations and took part in exchange with experts, while CEED Consulting d.o.o facilitated public consultations. Analyses from CAMP project were used as a prime resource material **in the course of preparing inputs for the workshops.**

All results of the CAMP MNE and information on the course of development of the NS ICZM MNE were made available on the web page of the Ministry of Sustainable Development and Tourism.

Amongst the meetings that were held in relation to this, the following are considered particularly important:

- Key aspects of the integrated coastal zone management in Montenegro – Integration of environmental protection goals into sectoral policies (policies of spatial planning and economic development) in the context of implementation of ICZM instruments, 29 January 2014 – Bečići;
- Harmonisation of special purpose spatial plan for Montenegro (SPSP CZ) and spatial and urban plans of municipalities with the Coastal Area Management Program for Montenegro (CAMP MNE), 11–13 February 2014 – Podgorica;
- Major shortcomings in integrated coastal zone management in Montenegro - thematic areas: spatial planning, agriculture and tourism, 21 March 2014 – Bar;
- Harmonization of the SPSP CA MNE with the results of the CAMP MNE, 18–19 June 2014 – Podgorica;

- Institutional-legislative framework for the integral management of the coastal area in Montenegro, 24 June 2014 – Podgorica;
- Establishing coordination mechanism for integral management of coastal area in Montenegro, 10 July 2014 – Budva;
- Priorities of the National Strategy for Integral Coastal Zone Management for Montenegro (NS ICZM MNE), 31 July 2014 – Pržno;
- Consultations of the Collegium of the Ministry for Sustainable Development and Tourism on NS ICZM MNE, 25 July 2014 – Kučka korita;
- Third session of the Steering Committee of the CAMP and NS ICZM MNE, 19 November 2014 – Podgorica.

The workshops discussed problems and causes, flaws in institutional and legislative frameworks, selection of priorities, proposals for management and coordinating mechanisms etc. The results of the expert team work were discussed in the consultative process (workshop conclusions and recommendations, questionnaire responses) and were given highest possible consideration after they have had been duly processed (systematisation, consistency check) by the expert team.

Besides workshops, the consultative process included desk research activities that consisted of the **internal and external desk research** respectively.

Desk research produced an overview of key problems of the coastal area based on sectoral analyses made as a part of the CAMP Montenegro and as a part of drawing up the NS ICZM MNE. Also, in due course we identified potential interviewees for in-depth interviews, participants for workshops on the verification of the problem, prioritization, causes and on the creation of quotas for quantitative and field research. Also, within that part of participatory process the data on:



- coastal area pollution;
- assessed type and quantity of imported pollution in the coastal area;
- budgetary and other means (i.e. credit line etc.) allocated for coastal area environmental protection;
- all relevant documents (strategy, action plans, programs) adopted at local level, were collected.

In the course of NS ICZM MNE participatory process, **two sets of in-depth interviews** were conducted with representatives of national and local institutions. The first set of in-depth interviews sought to identify key development opportunities, barriers and projects that have an impact on the development of coastal area. In the period of this undertaking, from August to October 2013, some 33 in-depth interviews were conducted where 11 interviewed 7 national institutions, and 22 interviewed 16 local institutions. The second set of in-depth interviews sought to understand the level of knowledge the representatives of national institutions have about the requirements/ commitments of the Protocol on Integral Coastal Zone Management, efficiency of present legal framework and complexity of institutional organization as well as to solicit their opinion on shortcomings identified vis-a-vis institutional legislative framework of Montenegro. As a part of this chunk of activities, some 15 in-depth interviews were made with 10 national institutions.

As a part of CAMP project and of the NS ICZM, CEED Consulting carried out two surveys, one at the beginning and the other at the end of the participatory process. Both surveys were made on the sample of 600 respondents coming from six coastal municipalities, those being: Bar, Budva, Herceg Novi, Kotor, Tivat and Ulcinj (100 questionnaires per municipality per survey). It should be noted that the survey data reflect the views of a households whose representatives

were interviewed, not only the view of interviewees themselves. The survey results were presented in the Participatory Report.

Besides that, an integral part of the consultative process were the **stakeholder consultations about the draft NS ICZM MNE**. In relation to that the Steering Committee, National Council for Sustainable Development and Climate changes and their working groups submitted their opinions. The opinions of working groups, including that of MONSTAT's, were enclosed with the draft NS ICZM MNE. Competent institutions and institutions in charge of the implementation of certain parts of ICZM submitted their opinions on the draft NS ICZM MNE for the sake of having it prepared for the Government of Montenegro.

In compliance with the Government's decree dated 18 December 2014 and the **Program of public consultations for the Draft NS ICZM MNE**, public consultations on the NS ICZM MNE were organized in the period 30 December 2014 to 9 February 2015. A part of the public consultation process was the **Round table held in Podgorica on 30 January 2015**.

The round table gathered together stakeholders and representatives of the competent authorities and institutions who reiterated their positions presented in the previous consultation process for the Draft NS ICZM. The round table was an opportunity to present the CAMP realization. The realization of the CAMP project and the drafting of NS ICZM MNE were commended at the round table. All activities pertaining questionnaire forms prepared for that purpose were completed in quality way. The participants expressed their expectation that the drafting and realization of the SPSP CA MNE would be delivered likewise, and that by the same token decisions to be rendered in it would protect natural resources located in the coastal area of Montenegro. They have also expressed their expectations that an inventory of cultural heritage would be completed before the

adoption of the Draft SPSP CZ and that it would result in an enactment of appropriate measures. The worktable stressed the importance of the protection of cultural heritage together with its surrounding area because cultural heritage is invaluable unless treated inseparable from its surroundings.

An overview of all remarks, proposals and suggestions solicited in the process of consultations and public discussion on the Draft NS ICZM MNE were considered by the Government of Montenegro before the adoption of the Draft ICZM MNE. The Government also considered the responses of the expert team for NS ICZM MNE to some of the suggestions and proposals for amending the Draft NS ICZM MNE that were made after some proposals were upheld.

An integral part of public consultations was the discussion on the draft NS ICZM MNE by the National Council for Sustainable Development.

UNEP/MAP and PAP/RAC have made expert analysis of the draft NS ICZM MNE in follow-up to the presentation of remarks, comments and suggestions given in the course of consultations and public discussion on the NS ICZM MNE.

Final Conference for CAMP and NS ICZM was organized in Miločer, on 18<sup>th</sup> December 2014.

The list of most important meeting organized in period 2012 – 2015 is attached in Annex I to this report.

## B. Individual activities

Individual activities were defined to include two groups:

1. **Support for the ICZM Strategy/Plan and the Coastal Area Spatial Plan (SPSPCZ MNE) of Montenegro;**
2. **ICZM framework setup;** and
3. Realisation of **the pilot project** on testing the ecosystem approach (ECAP) application in Boka Kotorska Bay by making the special



## B 1 Support for the ICZM Strategy/Plan and the Coastal Area Spatial Plan (SPSPCZ MNE) of Montenegro

Support was composed of:

- 1.1 Analysis of implications of the ICZM Protocol for spatial planning ⇒ Application of selected indicators for monitoring and evaluating sustainability of spatial development of the coastal zone of Montenegro, CAMP MNE (2013)-Built up Assessment of the Coastal Area of Montenegro
- 1.2 Preparation of sectoral baseline studies of selected coastal subsystems;
- 1.3 Coastal vulnerability, attractiveness and suitability assessment;
- 1.4 Inputs for the coastal carrying capacity, especially regarding the capacities in the sector of tourism development;
- 1.5 Recommendations to strengthen the beach management system in Montenegro;
- 1.6 Contribution to the coastal GIS database with indicators as a core future coastal monitoring observatory.

### B 1.1. Analysis of implications of the ICZM Protocol for spatial planning

According to the Inception report the purpose of this activity was to support the MSDT in the process that has led to the ICZM Protocol ratification. Its outputs will further contribute to the development of the Integrated Coastal Zone Management Plan and the National Strategy for the Integrated Coastal Zone Management, as it is presented in component B.2. of the Inception Report, and provide recommendation for the SPSPCZ MNE development.

As for the **actions** that would be implemented in the scope of this activity, it is important to note

that these were actually completed in the pre-CAMP period, as a result of the requests of the MSDT (and its predecessor – the Ministry of Spatial Planning and Environment). The actions that were implemented in the period prior to the preparation of the Inception Report were:

- preparing supporting (background) documents for the ratification of the ICZM Protocol;
- assessing implications of the ICZM Protocol requirements for the existing spatial planning documents (in particular with regard to the definition of the set-back zone as required by Article 8 of the ICZM Protocol).

As the expected **outputs** from this activity were defined:

- an analysis of implementation of the ICZM Protocol for spatial planning systems, including the recommendations for the spatial planning system with regard to the implementation of the ICZM Protocol requirements;
- the guidelines for the SPSPCZ MNE Terms of Reference;
- the proposal for the institutional-legislative framework setup for integrated coastal zone management of Montenegro in the scope of the ICZM development.

### *CAMP response*

The first two outputs were delivered in the course of the pre-CAMP activities. The proposal for the institutional-legislative framework for the ICZM was elaborated in the National Strategy for Integrated Coastal Zone Management (see below under point B.2.1 of the Inception Report). **Outputs of the activity B1, following the structure as they were defined in the Inception report, are presented in Table 4** at the end of this section.

### **Built up Assessment of the Coastal Area of Montenegro**

Although supporting (background) documents for the ratification of the ICZM Protocol and assessment of the implications of the ICZM Protocol requirements for the existing spatial planning documents (in particular with regard to the definition of the set-back zone as required by Article 8 of the ICZM Protocol) were delivered in the course of the pre-CAMP activities, the assessment of the national spatial planning system and status of the spatial planning documents indicated need for a substantive contribution of CAMP Montenegro to SPSPCZ MNE development. Therefore it was decided to extend the content and time frame for realization of this project activity. It was designed in a manner to provide expert support to SPSPCZ MNE development in its all phases through:

- Definition of the ToR and Programme of Work for SPSPCZ MNE development
- Assessment of the status of spatial planning documentation of relevance for SPSPCZ MNE development;
- Development of the synthetic map of present urbanisation of the coastal area with related capacity building of spatial planning team of RZUP as SPSPCZ MNE developer and a team of MSD employees and professionals in Directorate for Spatial Planning;
- Development of the methodological approaches for transposition of requirements of the ICZM Protocol through development of SPSPCZ MNE, including development of specific spatial planning indicators;
- Harmonization of the most important laws with the ICZM Protocol requirements. Recommendation were defined for a number of legal acts in the field of environmental protection, protection of nature and cultural diversity, valorisation of natural resources, natural hazards assessment and monitoring, as it is described below under project B 2.1.

For the most important legal acts: *Law on spatial planning and construction of objects* and to the *Rulebook* on Closer Contents and Form of the Planning Document, Criteria for the Use of Space, Elements of Urban Regulation and Unique Graphic Symbols and rationality in the planning and direction of future urbanization process the necessary amendments were defined;

- Capacity building of the teams of spatial planners responsible for development of the spatial plans for coastal municipalities that were performed in parallel with SPSPCZ MNE development;
- Harmonization of a SPSPCZ MNE process outputs and a few pre-drafts and final Draft of SPSPCZ MNE that was decided to be put in the public hearing procedure with the outcomes and recommendations of CAMP.

In order to realize tasks that were defined as the necessary steps to provide expert support to SPSPCZ MNE development in accordance with the main spatial-physical and protection requirements and related the most important methodological-process requirements set out by the ICZM Protocol, the following outputs have been delivered:

- Application of selected indicators for monitoring and evaluating sustainability of spatial development of the coastal zone of Montenegro, CAMP MNE (2013)-Built up Assessment of the Coastal Area of Montenegro
- The analysis for defining of the Coastal Setback (that is presented below under activity B 2.2);
- Trainings aimed to strengthening the capacities of RZUP as SPSPCZ MNE developer and spatial planning teams responsible for spatial plan of coastal municipalities, state and local municipalities administration in the field of spatial planning;

- Review assessments of the SPSPCZ MNE outputs and at final phase four drafts of SPSPCZ MNEs and recommendation for improvement of SPSPCZ MNE process at different stages of development.

In above group the most important output is Built up Assessment of the Coastal Area of Montenegro. Therefore, its' content, results and outcomes are presented into details in this Final Project Report. It has been prepared by the CAMP expert after Synthetic map of present urbanisation of the coastal area of Montenegro was prepared. It was a new methodological approach introduced in the spatial planning process through technically demanding and complex process since the available planning documents were prepared in different time periods, uneven methodological approaches, and thereby to a significant extent were not available in digital form. That phase lasted from February 2012 until February 2014.

After preparing Synthetic map the built assessment analysis was realized by introducing the methodologies for calculation of the sustainability indicators for planning the use of the space of the coastal area of Montenegro. The indicators that were defined in accordance with the requirements of the ICZM Protocol and Regulation on Closer Contents and Form of the Planning Document, Criteria for the Use of Space, Elements of Urban Regulation and Unique Graphic Symbols and rationality in the planning and direction of future urbanization process are:

- **the indicator of intensity of urbanisation pressures that indicates share of construction areas in the total surface of six coastal municipalities and share of construction areas in total surface of the narrow coastal zone** (degree of anthropogenisation of the coast); For the purpose of calculation of indicator of the construction of the narrow coastal zone, the coastal strip was defined as the coastal strip of given width of 100 m and 1000 m;
- **the indicator on the share of the constructed area in the urbanized zones** that defines the rationality of spatial planning and utilization of the areas for construction/urbanization;
- **the indicator on the consumption of the coastal line** provides information on the share of the constructed costal line in the total length of the coastline; it can be stated for the entire coastal area or its subunits, for example: coastal local governments, coastal and island segments.

Use of indicators of the sustainability of the spatial development is of exceptional importance for enabling efficient monitoring of the transformation of space in the coastal zone. By applying selected indicators for monitoring and evaluating the sustainability of spatial development of the coastal zone of Montenegro, following main characteristics and parameters for the space of coastal areas have been determined:

- oversized construction areas (CA);
- planned CA cover 46.3% of the surface of the 1 km coastal strip;
- share of CA in the total surface of the coastal zone amounts to 15.5%; only 18.5% of all CA are developed;
- 31.9% of the coastline are built-up areas
- 80% of all the undeveloped construction areas is on the locations of high and very high vulnerability;
- area with illegally built structures is estimated at around 560 ha;
- considerable areas are devastated by illegal and unplanned construction of low quality;
- In the coastal strip of width of 500 m the share of the constructed zones in the urbanized zones is 52.1%, while it is 46% in the strip of width of 1000 m what indicates the strong pressures of urbanization that grow while approaching to the coastal line. At

the same time the occupancy of the population in urbanized areas is only 6,5%.

The indicator of intensity of urbanisation pressures has been developed by analysing valid spatial planning documents-synthetic map of present urbanisation and the real level of development based on orthophoto images from 2011. The analysis has shown that construction areas in the coastal zone are largely oversized in relation to the number of inhabitants and tourist capacities. The share of construction areas in the total surface of six coastal municipalities in Montenegro is 15.5%, whereas only 18.5% have been actually built. The remaining 81.5% or 19,042 ha comprise non-developed construction areas. The same indicators for the 1 km wide belt from the coastline shows that as much as 46% of the territory is planned for construction, out of which less than a third (30%) has been developed. For the sake of comparison, share of construction areas in the overall territory of Croatian coastal counties (which have population density similar to that of the Montenegrin coast) amounts to 5-7%, while the same indicator for the coastal self-government units is 8-10%. If the share of planned construction areas in the coastal belt extending for 1 km from the coastline is compared with the situation in the coastal zones of Italy, France, and Spain, it can be seen that these states, with substantially higher population density than the one in the Montenegrin coastal zone have a lower share of planned construction areas (on average around 30%, as compared to 46%). The surface of planned construction areas which has not been built yet (19,042 ha) is sufficient to accommodate housing capacities where additional 600,000–800,000 inhabitants could live (in line with the existing construction density) and tourist capacities for at least 270,000 new beds. These facts clearly indicate the scale of oversizing the construction areas.

Planning of construction areas several times larger than necessary represents an unsound use of valuable and non-renewable spatial

resources, but also has numerous additional negative consequences such as:

- dispersed construction with significantly higher costs of communal arrangements;
- unnecessary consumption of other valuable resources, especially agricultural and forest land and areas with valuable biodiversity;
- higher energy supply costs and higher consumption of fuel;
- higher environmental pressures; as well as loss of the traditional physiognomy of settlements and diminished original landscape values.

In economic sense and with long-term perspective, such a trend leads to decreased attractiveness of the tourist area, downgrading of destination rating, and ultimately to a decrease of income earned by tourism. Conversion of agricultural land does not inflict damage only to agriculture; it generates other negative consequences such as soil erosion, environmental pollution, deterioration of cultural heritage, etc.

The important indicator of sustainability of spatial development is the existence of conflicts between the impacts of urbanisation processes on the space and its vulnerability (that is described below under activity B 1.3). Out of the total surface of undeveloped construction areas, 80% is on locations of high or very high vulnerability. Comparative analysis of the areas of high vulnerability, planned construction areas and the extent to which the space has been built so far has revealed 35 zones where there are conflicts between non-built construction areas (with surfaces of more than 50 ha) and areas assessed as the most vulnerable ones. An additional risk with hypertrophic construction areas is initiation of numerous dispersed, small and non-harmonised interventions outside the settlements that irrevocably devastate the space and diminish development potential of the coastal zone.



The quality and the extent to which the built space is arranged is important indicator of sustainability of spatial development is. It refers to functional and physiognomic-morphologic characteristics of the built environment and the level to which it is equipped with communal infrastructure. Physiognomic-morphologic characteristics refer to the quality of design, morphology and composition values of the matrix of settlements, respect of the original landscape values and of valuable elements of local traditional typology of settlements. Beside communal infrastructure, an important element of settlements' functionality, which is often missing in the coastal region settlements, is the system of public surfaces and public amenities. Green areas, in particular public ones, are also an important element of functional arrangement, good design and environmental protection of settlements. Architectural shaping of certain buildings and their immediate surroundings is important for the assessment of quality of built environment too. In the coastal zone there are numerous examples of construction that does not contribute to preservation and increase in the quality of built environment. Even though it is not easy to give an objective assessment of the quality of built space, a simple field visit provides an insight on the state in space and proportions of the existing problems along the Montenegrin coast. Quality, authenticity and identity of the built environment should be particularly important for destinations that have potential and ambition to develop high quality tourism, such as the coastal zone of Montenegro. Although the main attraction factors of the coastal tourism in Montenegro are nature, sea, attractive landscapes and cultural heritage, for an overall positive experience it is necessary to ensure that urbanised areas and accommodation compounds through which the visitors move and in which they stay are comfortable to the maximum possible extent, creatively designed, integrated into the environment and respectful to it. This is understandable since the desirable

tourist emitting markets are developed countries of the European Union with high standard of living and developed environmental and spatial planning criteria.

Among the most important outcomes of the Built up Assessment of the Coastal Area are the **criteria and guidelines for determining land uses**, primarily for the needs of the SPSPCZ MNE. This was done in a way as to direct land use categories intended for performance of basic functions (zones planned for development and arrangement i.e. construction areas) to the least vulnerable parts of space.

Thus developed criteria and guidelines have had an impact on the decisions determining land use in the SPSPCZ MNE, as follows:

- Reduce land under construction for around 5.5% (from 15.5% at present to 10%);
- Increase land under construction at over 50%;
- Introduce coastal setback;
- Eliminate conflicting use of most valuable parts of the coastal area;
- Open space for developing high-end tourism in narrow coastal strip and for sustainable tourism in the hinterland by means of defining combined development measures that can combine well with rural development in the hinterland;
- Reduce residential construction areas i.e. cut down on residential tourism;
- Increase the number of hotel and resort units by reducing residential area (new housing units to be brought down to a realistic level) i.e. number of hotel and resort beds accounting for 50% of the total number of beds in year 2030 compared to year 2011 serving as a benchmark.

## B 1.2. Preparation of sectoral baseline studies of selected coastal subsystems

As it was defined in the Inception Report the **goal** of this activity was to support development of the SPSPCZ MNE by providing the selected baseline studies, as a contribution to the integrated assessment of the key coastal issues and trends as well as potentials and constraints.

The key **objective** was to enable the assessment of selected coastal subsystems (including hydrological, geomorphological, hydrogeological, climatic and ecological) and socio-economic elements in a manner that best suits the needs of the spatial planning and SEA process. These assessments were defined as to contribute to the preparation of the vulnerability / suitability assessment, as a part of the ICZM Plan and the National Strategy on ICZM. In addition, these assessments were supposed to integration of the ICZM principles into the SPSPCZ MNE.

It was defined that all the studies (assessments) need to be prepared in such a manner to give an overview of the current state, to identify the key problems with current trends and a preliminary assessment of causes of these problems, to propose possible measures tackling these problems as well as indicators for monitoring the progress in implementation of these measures (a DPSIR analytical framework may be used). All the assessments need to have appropriate cartographical presentations, integrated into a single GIS data base.

It was noted that the above-presented list of baseline studies represented only a part of the baseline studies necessary for the preparation of the SPSPCZ MNE. Any additional study, if necessary, was defined as the obligation SPSPCZ MNE planning team, as part of the SPSPCZ MNE preparation.

**Actions** to be implemented:

- identifying the existing sources of information (including available maps, aerial photographs), data gaps and the ways to overcome them;
- analysing the status of biodiversity and nature in the coastal zone including the assessment of the sensitive marine and coastal habitats as to provide the recommendation for revising the protected areas status and improvement of the system for nature protection in the coastal zone (linked to contributions by the MedMPAnet project implemented by SPA/RAC);
- analysing the status of hydrology, hydrogeology and water quality in the coastal zone, including the watersheds and its impacts on the coastline;
- identifying the natural risks and its impacts on the coastal zone;
- analysing the main socio-economic trends as to identify development potentials and pressures to the coastal zone;
- contributing to the preparation of vulnerability assessment;
- contribute to GIS database.

**Outputs** of this activity include:

- Biodiversity and nature protection study;
- Hydrology, hydrogeology and water quality study;
- Risk study;
- Targeted socio-economic analyses;
- Criteria for the development of a vulnerability model;
- Cartographic presentations of the analysis outcome and contribution to GIS database as the analysis outcome.

Detailed technical specifications that defined goal, actions and deliverables for the above mentioned studies were presented in Annexes II and III to the Inception report.

### **CAMP response**

The Inception Report has served as the main platform and guiding document in selecting the expert team members for development of the baseline studies. Development of the Terms of Reference for Baseline studies and Vulnerability and Suitability Assessment, indicated need to adjust guidelines defined in the Inception Report according to which it was suggested to use baseline studies for the preparation of the vulnerability and suitability assessment of coastal area. Instead of that it was decided to organize parallel preparatory and data gathering stages for baseline development and coastal area vulnerability assessment. Preparatory phase included development of the methodology for vulnerability assessment following technical specification that was defined in the Inception report. It indicated need for adjustment of the methodology for baseline studies development in a manner to have two parallel process at preparatory stage. The structure of the process enables exchange and integration of the sectoral expert analyses and assessments in all phases of the vulnerability: general vulnerability, environmental segments vulnerability, vulnerability of the selected economic activities, vulnerability of the narrow coastal area.

Thus following tasks were defined as to enable fulfilment of such an approach:

#### **1. Preparatory stage**

- a) Preparing detailed determination of the methodology;
- b) ToRs development and recruitment of the Task Group experts teams;
- c) Determination of scale of the project and considering variables of the study.

#### **2. Data gathering stage**

- a) Gathering of environmental and related infrastructural data: hydrology, geology, seismic hazard, relief, land cover, pedology, biodiversity, hidrography,

oceanography, mareography, pollution of water, air, soil, sediment, climate change, etc.;

- b) Evaluating data by quantification of the selected impacts/phenomena;
- c) Cartographic presentation of the selected impacts/phenomena;
- d) Compilation of information;
- e) Selection/improvement of software and preparation of databases.

The following expert Task Groups have been engaged in realization of the above listed tasks:

- The Task Group for hydrogeology, soil erosion and seismic risks that was led by the Institute for Geology;
- The Task Group for hydrology, water quality, coastal process and climate vulnerability that was led by the Institute for Hydrometeorology and Seismic of Montenegro;
- The Task Group for Biodiversity;
- The Task Group for Socio-Economic Analysis.

In evaluating gathered data task group members provided an overview of the current state, identified the key problems with current trends and gave a preliminary assessment of causes of these problems.

Following specific actions have been implemented by experts:

- Identification of the existing sources of information (including available maps, aerial photographs), data gaps and the ways to overcome them;
- Analysis of the status of biodiversity and nature in the coastal zone including the assessment of the sensitive marine and coastal habitats using all relevant available data;
- Analysis of the status of hydrology, hydrogeology and water quality in the coastal zone, including selected river flows that have impacts on the coastline;

- Identification of seismic and climate change impacts on the coastal zone, including analysis of limited data of relevance for identification of erosion impacts;
- Analysis of the main socio-economic trends as to identify social, including demographic characteristics, and economic pressures, needs and potentials of economic development.

Evaluation of data have been done as to fulfil needs of vulnerability assessment methodology that was defined in consultation of leading vulnerability assessment expert and national team of experts.

By having the preparatory data gathering phase finalized in period May – June 2012, the modelling of the general vulnerability and environmental segments were conducted in a period July-August. While making modelling, all data that were gathered and evaluated, have been reviewed in a few evaluation cycles in order to provide there consistency. In that period a number of expert team meetings have been organized in order to provide data evaluation and there validation in parallel with producing and assessing the consistency of the cartographic layers of the data, impacts and phenomena that are selected in accordance with the outcomes of data evaluation.

At this stage development of baseline studies have been temporarily stopped until finalization of the vulnerability assessment of the coastal area and vulnerability assessment of the narrow coastal zone. The process has been continued during 2013, with additional final amendments of some of the studies in a first half of 2014 due to needs in the process of NS ICZM development.

Each expert input has been supervised by National Project Co-ordinator for CAMP. Based on the evaluation findings, directions for there finalization have been given in consultations among Vulnerability Assessment Leading Expert,

PAP/RAC Programme Officer and National Coordinator for CAMP. The evaluation of the expert inputs implied:

- Validation of the consistency of the expert inputs and meta data there were used;
- Validation of the source of meta data due to principle on data management that requires usage of the officially approved and published data (institutions of public administration: Environmental Protection Agency, Hydrometeorological and Seismology Institute, Geology Survey Institute, etc.);
- Evaluation of the consistency among different expert inputs;
- Evaluation of the consistency among textual analyses and cartographic presentation;
- Identification of elements to be amended and modified;
- Identification of the needs for amendments of cartographic layers.

At final stage preparation of the baseline studies resulted with definition of the measures and recommendations to overcome current problems taking into account results of vulnerability assessment that have been obtained until then. Measures of the sectorial baseline studies for selected coastal subsystems have been formulated as the contribution to the integrated assessment of the key coastal issues and trends as well as potentials and constraints, serving as the platform for determination of goals, measures and actions of the National Strategy on ICZM. In addition, these assessments contributed to the harmonisation of the SPSPCZ MNE with NS ICZM and CAMP outcomes.

## Baseline outputs

### 1. Study of Biodiversity and Nature Protection of Coastal Area of Montenegro

This study used officially published data and results of field researches realized by its authors. Main aim was to highlight biodiversity and

nature values of the coastal area and to identify main nature protection problems and challenges. Study also highlights factors with negative impact on nature which may cause disappearing of certain species. The modalities to overcome identified problem and to provide sustainable management and sustainable use of natural resources have been developed.

Development of this study comprises eight chapters with 3 annexes and lays down a plan for the realization of the following actions and related outcomes:

- Analysis of key habitat types with special attention to rare and endangered habitats types as well as those that are of international importance (Habitat Directive, Natura 2000 network); existing and planned protected areas in accordance with national legislation, as well as the areas that have international importance (EMERALD, IPA, IBA); and protected and threatened species in accordance with CITES, Bern Convention and IUCN requirements, with their spatial (cartographic) distribution. The analysis was based on vulnerability assessment methodology compiled with IUCN and other relevant international criteria and standards. It benefited of all relevant data and project outcomes such as national monitoring of the status of biodiversity of coastal and marine biodiversity, available CORINE data, previous SPA/RAC project activities in the country, such as field surveys undertaken in the frame of the MedMPAnet project for the creation of a national network of MPAs, Project on establishment of MPA Katic with support of Italian Ministry for Environment, Land and Sea, Project on establishment MPA Platamuni supported by UNDP Montenegro, etc.;
- Assessment of the type and cause of threats to the coastal biodiversity and nature protection, with indication of trends and areas under particular impacts.

- Factors that have negative effect on biodiversity (threatening factors) were determined and estimation of the trends of their effects on biodiversity. Special attention was paid to areas that are rich in biodiversity and are potentially endangered by human settlement or to those localities that are planned for building infrastructure.
- Based on these assessments and ranking of all the zones in protected areas due to their importance, the priority areas for the protection were proposed, as well as measures for mitigating the pressures. Measures were proposed to be used for development of the NS ICZM with specific set of measures that are relevant for elaboration in SPSPCZ MNE.
- The maps with distribution of selected taxon (vascular plants, moss, fungi, invertebrate, amphibians, reptiles, birds, mammals and marine species) and map with the most important habitats for nature protection were provided. The maps are based on literature data and personal field experience of the team of experts. By overlapping such maps some the centres of biodiversity were identified (more taxa overlapped the area is more important). Those maps were integrated into CAMP GIS data bases of coastal area.

## **2. Study of Hydrology, Hydrogeology and Water Quality**

This study has been developed by using existing information of relevance for description of hydrological and hydrogeological regime, as well as for the status of most important surface and underground waters in the coastal area.

The Study comprises eight chapters and lays down a plan for the realization of the following actions and related outcomes:

- Characterization of hydrological characteristics of waters in the coastal region of Montenegro with the emphasis on the

importance of the Skadar lake and the Bojana river for that. Taking into account the swelling and the amount of rainfall from seasonal fluctuations, the analysis of the water balance was prepared. The study also made characterization of vulnerability of the coastal region from major watercourses and the emphasis was on torrential streams and seasonal torrent flows. Apart from the Bojana river, all other rivers are fast and short with high flow oscillations. Concerning stagnant waters adjacent to the Skadar lake, the most important is Shasko lake that was included in the characterization as it had a big impact on the upper stream of the Bojana river, even though the lake itself is not located in the coastal area.

- Characterization of major hydro-geological features of three hydrogeological zones in the coastal region: coastal strip, Cukali zone and High rocks respectively. The study looked into the capacity of underground waters and their steady, long-term capacity to meet the needs for water from karst springs.
- Analysis of reserves of drinking water from underground waters, including both static and dynamic reserves, exploitation reserves and the assessment of the prospects of discovering new reserves of water springs.
- Characterization of hydrological and physical-chemical characteristics of thermo-mineral waters and physical-chemical and mechanical characteristics of peloids.
- Determining hydrogeological status of drinking water springs supplying Montenegrin coastal region and their discharge capacity and present status of the water supply system. Assessment of the physical-chemical quality of underground and ground drinking waters was made based on available data and an assessment was made of the systems for protection of underground waters and of the monitoring of underground waters.

- Determining the pressure and impact of coastal towns on underground waters, with particular emphasis on those that have major impact: excessive exploitation, nutrients inflow, salinization, wastewaters, agricultural waste etc. In relation to that the following was made: matrix for the index of regional hydrogeological categorization of the area and the matrix for the index of the zones of sanitary protection, water facilities and water wells in relation to their vulnerability.
- Starting from the assessment that the major problem of sustainable water management in coastal towns is the protection of the resources for supplying of the coastal region with quality water for different purposes, the study presents recommendations from the aspect of hydrology and hydro-geology as the basis for defining measures in the NS ICZM and for further use towards meeting the objectives of the SPSPCZ MNE.

The maps that describe vulnerability of the underground, including hydrogeological characteristics and sanitary zones and water sources, and ground waters features were prepared and integrated into CAMP GIS data base of coastal area.

### **3. Study of Erosion Impacts**

The Study on erosion has been prepared with significant reduction in the content comparing to the technical specifications that was defined in the Inception report for preparation of baseline study on littoral processes: analysis of coastal processes and erosion. Due to lack of available data of relevance for coastal processes and non-possibility to launch research and mapping of erosion actions under umbrella of CAMP, the Study did not include:

- Identification of the key changes in the coastal zone caused by erosion processes of coastal beaches and erosion processes' impact to the beach status and management measures;

- Separate analysis of the impacts to the status of Boka Kotorska Bay, including the mapping of the springs in Boka Kotorska Bay, and sediment transport on the complex hydrodynamic processes in the Bay, and erosion impacts to the ecological status of the area (e.g. impacts on marine biodiversity);
- Identification of other locations that may be under threat of the erosion processes impacts;
- Projection of future trends of the changes caused by erosion impacts.

This study lays down a plan for the realization of the following actions and related outcomes:

- Characterization of the coastal area status by determining factors that accelerate the erosion such as geological substrate, relief, climate, vegetation and human activities. A review of distribution of erosion processes is given. Results of the analysis show that almost the entire coastal region is threatened with water erosion which manifests in various forms: as surface, mixed and deep erosion, as well as through landslides and flooding deposits.
- Following characterization assessment the soil vulnerability to erosion was prepared for torrential watercourses with an objective to firstly recognise the extent of the problem and then to define necessary measures to prevent or mitigate erosion processes. The analysis referred to the following torrential watercourses and their catchment areas: Bečićka river, Bojana, Bratički stream, Gradiošnica, Grđevica, Jaška river, Koločun, Ljeskovački stream, Vodolježnica, Rikavac, Sutorina, Vještica and Željeznica. Vulnerability was prepared to be used for general vulnerability assessment of the coastal area. It was decided not to process sections outside the listed catchment areas including flat terrains, wetlands, saltpans, settlements, areas of macchia and preserved

forests, as well as bare terrains that cannot be forested at the level of graphic representation. With the exception of bare terrains, these areas are not threatened by erosion, even though there are still some smaller sections where torrents and flooding bring sediments and cover up fertile land or where soil is physically lost as the shore gets destabilised and landslides occur.

- For the purpose of narrow coastal belt ranging from 500 to 1000 m in width the graphic presentation of erosion was done on 1:25000 maps. Erosion maps were generated based on a method where strength of erosion processes in a given watershed and watercourse bed is classified into five categories of destructiveness. In such a manner characterisation of the narrow coastal belt was done. It is characterised by highly jagged shoreline with rich diversity of relief forms such as capes, coves, cliffs, *podkapine* (shelter-like recesses at the foot of the steep shores), bays and inlets. Dominant steep rocky shore with scattered parts of rocks and stones of different sizes and shapes has evolved due to the work of waves on limestone. In the bays, inlets and some coves, materials have been deposited through torrential watercourses and were then shaped by the sea waves. Development of beaches (sand, pebble and rocky) and their nowadays appearance are result of water and eolian erosion. Their length, width and surface vary on different locations from Igalo to Bojana.
- The proposal of the measures for protection and regulation of torrential flows, including the identification of the key problems with the analysis of trends and identification of specific targets in terms of erosion was given. The measures to protect soil from erosion and regulation of torrential flows which include preventive and active measures were also determined.

- The maps that describe vulnerability of the soil to erosion and erosion map of the immediate coastline is also presented at the Illustration was integrated into CAMP GIS data base of coastal area.

This Study took into consideration the results of other related data and outputs of MedPartnership Bojana/Buna Transboundary Project and ADRICOSM project.

#### 4. Natural risks analysis

Technical Specifications for preparation of the baseline studies on natural risks that are presented in Annex II of the Inception Report determine the objectives, actions and deliverables related to climate change and seismic risks assessment. The main objectives of this activity was to demonstrate integration of climate change concerns into the NS ICZM by applying the Methodological guidelines prepared by PAP/RAC and to contribute towards the increased preparedness to the impacts of the seismic instability by enforcing the related data set and define the set of measure to contribute to the effectiveness of the integrated coastal zone management system of Montenegro.

##### 4.1 Climate Change Analysis

Climate Change Analysis was realized to fulfil needs of the coastal area vulnerability assessment to climate change impacts. Therefore the baseline analysis was prepared as the input for the General Vulnerability Assessment, with more detailed elaboration of storm impacts and sea level rise for the purpose Vulnerability Assessment of the Narrow Coastal Zone.

This analysis lays down a plan for the realization of the following actions and related outcomes:

- Assessment of the existing status of coastal area vulnerability to climate change by assessing impacts of droughts, forest fires, strong rains and storm winds. It was found that vulnerability of the coastal region to

these meteorological hazards is in the domain of medium to very high vulnerability. In order to decrease vulnerability it would be necessary to decrease exposure or sensitivity through application of special measures or by increasing adaptive capacity. Vulnerability models for droughts, forest fires, strong rains and storm winds have been joined into a single model showing cumulative vulnerability to phenomena linked to climate change, climate variability and climate extremes by the principle of regulated average value by individual models as well as by relative difference in vulnerability. This served as a tool to depict those parts of space where several vulnerable areas coincide with each other for all the analysed phenomena and where larger, more complex impacts of climate change were expected to take place. The existing state of vulnerability to climate change is depicted with areas of the highest vulnerability.

- The projections of future climate change impacts have been prepared through analysis of IPCC scenarios in SEE: A1B/2001-2030, A1B/2071-2100 and A2/2071-2100. From the climate change models for droughts, forest fires, strong rains and storm winds the areas with high to exceptionally high climate change impact were determined. Areas where layers for individual phenomena overlapped were considered as areas where larger/ more complex climate change impact was expected in total.
- The Assessment of areas with high impact of storms was done by using data from the three main meteorological stations. It shows frequent occurrence of winds from second and third category. The storms where analysed due to wind speed and precipitation criteria. Winds with maximum gusts that reach storm to hurricane speeds are caused by passing of cyclones in the winter part of the year (October – April). According to precipitation criteria, storms from categories



1 and 2 are the most frequent ones in the coastal region of Montenegro. The impacts of storms were identified such as lighter as well as more substantial damages on buildings, built structures, constructions, and overhead power transmission lines, or storm waves on the sea, which cause flooding and erosion of the shore, damages on built infrastructure along the coast line, etc. The analysis provided assessment of the waves generated by winds showing entire part of the coast is exposed to destructive waves and highly vulnerable to them. Depending on how much is certain area exposed or sensitive to storms, and on its capacity to adapt, vulnerability and adaptive capacity classified into 5 categories have been determined.

Having in mind intensity of storms, their movements and consequences they can cause, as well as geometry of Montenegrin coast, the areas that are assessed as moderately to highly vulnerable to storms (based on expert judgement) are singled out.

Due to storms impacts flooding zones were defined based for the purpose of defining coastal set back line and other spatial planning activities within SPSPCZ MNE.

- With the aim to provide input for vulnerability assessment of the narrow coastal zone the assessment of areas affected by the sea level rise has been prepared. The open source programme GRASS GIS was used to map the sea level rise (GRASS stands for Geographic Resources Analysis Support System), applying results of a number of semi empirical researches and literature data in line with IPCC, as well as through application of the digital terrain model (DTM) to make transference of the projected sea level rise for the Montenegrin coastal zone into space, without using techniques to downscale global models to regional level and by taking into account changes of the sea level in the Adriatic basin. Effects caused by strong winds and waves have not been considered in the

assessment of the sea level rise for Montenegro's coast. Four scenarios with projections of the sea level rise by 2100 were proposed in the analysis of the sea level rise in the coastal zone of Montenegro.

- Given the fact that sea level rise estimates are of long-term nature (they refer to the year 2100), an assessment of probability of their realisation at present and in the near future was made, based on application of assumptions presented in the analysis. It was recommended that each future spatial plan should take into account results of the first (sea level rise of +0.62 m in the DTM) as well as of the second scenario (sea level rise of +0.96 m in the DTM), which correspond with maximum sea level rises in the current, still rare, emergency situations of coastal zone flooding due to impacts of strong winds. This is especially important in the context of application of data on projected impacts of sea level rise in the Montenegrin coastal zone within the time horizon of developing the SPSPCZ MNE.
- Each of the analysed existing climate change status phenomena was represented on its own layer, as well as impacts of the analysed phenomena according to climate change future scenarios. In mapping narrow coastal area vulnerability to storms impacts several difficulties were faced such as: insufficient amount of basic data and information, and complex terrain. The maps that present sea level rise and flooding areas were also prepared. The maps were integrated into CAMP GIS data base of coastal area.

It is important to note that climate change assessment has been significantly expanded compared to the technical specifications presented in the Inception report. The climate change risks have not been evaluated separately and were partially presented though vulnerability assessment of the coastal area.

#### 4.2 Study of seismic categorization of the space of coastal municipalities

This study was realized to support seismic vulnerability assessment of the coastal area, and seismic hazard in the broader sense, which includes seismic characteristics of the territory of six coastal municipalities in Montenegro. Therefore it was prepared as the input for the General Vulnerability Assessment, with more detailed elaboration of the seismic micro-zoning to meet needs of the Vulnerability Assessment of the Narrow Coastal Zone.

This study lays down a plan for the realization of the following actions and related outcomes:

- Following the general vulnerability assessment methodology, seismic vulnerability is presented as a component that expresses the potential effects of seismic activity in the region (i.e. seismic hazard) and its contribution to the overall vulnerability of space. General seismic activity is defined on the basis of the relevant database on the seismic history of all the coastal municipalities of Montenegro, covering both regional and local aspect of these activities during the period that goes back many centuries in the past.

General seismic vulnerability was then combined (convolved) with the content of the engineering-geological map on lithological characteristics of the terrain and of the map with categorisation of terrain's slopes, in accord with the level of their impact in evaluation of the basic seismic vulnerability.

For the general regional seismic impact linked to the so called base rock, with high values for mechanic characteristics, categorisation has been performed on the basis of expected maximum horizontal ground acceleration during earthquake within standard (according to the European norms) return periods of 475 years. This type of categorisation has a significant role in the process of developing

spatial planning documentation for the entire coastal region as an area with very high level of seismic hazard and consequent seismic risk.

- Adequate quantification of seismic effect of the local geotechnical environment is of significance for adequate and realistic categorisation of space given its possible contribution to the overall seismic vulnerability. For these reasons and in order to express cumulative vulnerability of space in the narrow (500 m) coastal zone, detailed categorisation and mapping of seismic vulnerability were performed based on the content of results of seismic micro-zoning of urban areas in the coastal towns which contains detailed elements of interaction between primary seismic movements (on the base rock) and local geotechnical environment.

In performing seismic-zoning existing data have been used. During intensive complex surveys in the coastal municipalities of Montenegro that were carried out in the period 1982-1985, a vast amount of diverse geological, geophysical, seismological and other types of data was recorded. These data were used to produce described regional seismological baselines (maps of seismic hazard and seismic micro-zoning maps) as well as other types of graphic and other products. In parallel with these surveys, the procedure of seismic micro-zoning was conducted resulting in a detailed set of maps (scale of 1:5000 or 1:10000, depending on the municipality in question).

- Based on the content of seismic hazard maps and seismic micro-zoning, categorisation of space in the six coastal municipalities with a view to seismic impacts has been performed.
- Based on the analysis of seismic vulnerability for the coastal area in question, the specific recommendations for spatial planners as end-users were formulated. In the course of developing spatial planning documents for

the narrow coastal zone and the entire territory of coastal municipalities of Montenegro, having in mind high levels of seismic hazard in the area and expected consequent levels of seismic risk, it is necessary to respect determined grades of seismic vulnerability of space to the future earthquake activities, especially vulnerability indexes derived by combining expected seismic activity and contents of engineering-geological and of seismic micro-zoning maps.

- Seismic micro-zoning maps as well as derived maps of suitability of terrains for urbanisation have integrated vast amount of all the survey results. For CAMP MNE needs and with consent of the public institution Institute for Geological Surveys of Montenegro, available set of maps on seismic micro-zoning for all the six coastal municipalities was scanned and geo-referenced in the original Gauss–Krüger projection. Total number of available maps in the sets for seismic micro-zoning for all the coastal municipalities was 103 and were integrated into CAMP GIS data base of coastal area.

Compared to technical specification on seismic categorisation this study has been expanded, especially regarding seismic micro-zoning.

### **5. Study of the status of the coastal area**

Inception report did not define the Study of the status of the environment of the coastal area and anthropogenic pressures on the environment and human health as the outcome of CAMP. However interpretation of the obligations arising from the Protocol on Integrated Coastal Zone Management in the context of general vulnerability assessment of the coastal area indicated need for detailed assessment of the status of coastal environment. Hence it was decided to prepare this study as to provide inputs for assessment of vulnerability of individual environmental segments. Moreover, existing pollution (the extent to which the environment has been endangered) of individual

environmental segments has been analysed as a specific characteristic. Results of the assessment served as one of the baselines for defining spatial vulnerability and for identifying remediation measures.

Thus this Study comprises six chapters and lays down a plan for the realization of the following actions and related outcomes:

- Assessment of the present status of the coastal environment by analysing all relevant, officially verifiable data, such as: noise; air quality; soil pollution at hot spot locations; pollution of the marine environment, by taking into account coastal waters, sea hot spot and trend locations, sea eutrophication, pollution of sediment at hot spot locations; bio-indicators at sea hot spot and trend locations; bathing water quality; waste waters and outlets located in sea; surface water quality-pollution inputs by tributaries; underground water quality; general status of environment.
- Key problems have been identified with related drivers, impact and pressures, including trend analyse of the pollution impacts, for noise, air pollution, soil pollution, sea water, surface and underground waters pollution and waste water.
- Definition of specific goals for reduction of noise; air pollution, soil pollution and solid waste disposal; prevention and reduction of sea pollution, sediment and marine organisms protection of water quality, biodiversity and natural characteristics of coastal area; waste water treatment and disposal; protection of water springs of relevance for water supplying and karst in hinterland; protection of peloids and healthful mud and water in Igalo and Ulcinj; protection of nature protected areas; establishment of sustainable touristic development; establishment of ecological development in Boka Kotorska Bay.

- Proposal of the measures to achieve previous specific goals, with the proposal of actions to realize measures, with related timeframe for implementation.

This study provided input data for General Vulnerability Assessment of the Coastal Area, but also for SPSPCZ MNE. All the input data used for preparation of individual or joint models for environmental segments are based on the use of official data from competent line ministries and public administration bodies tasked with implementation of environmental monitoring and reporting on the state of individual environmental segments, monitoring of spatial conditions and maintenance of cadastre baselines, such as: Ministry of Sustainable Development and Tourism, Agency for Environmental Protection, Institute for Hydro-meteorology and Seismology of Montenegro, Geological Institute of Montenegro, Centre for Eco-toxicological Research of Montenegro, Real Estate Administration of Montenegro, Public Enterprise for Montenegro Public Maritime Domain Management, Public Enterprise “Regional Water Supply of Montenegro”, and others. At the same time, exchange of information with the RZUP as developer of SPSPCZ MNE has been established in order to prepare CAMP Montenegro materials in line with the format of processing the spatial data needed for the development of SPSPCZ MNE.

Assessment of environmental and human health vulnerability was done as an analysis of the existing environmental quality and vulnerability of space taking into account selected physical and psychosocial aspects of human life and health. Basic goal of the analysis was to recognise sensitivity and the extent to which the coastal environment has been endangered in order to secure sustainable spatial planning and management and thus provide for healthy and preserved environment. This includes maintenance of the quality of biological diversity, quality of air, food, drinking and recreational waters, as well as decrease of

negative impacts on human health such as noise, air pollution, drinking water and sea pollution, and others.

Assessment of environmental and human health vulnerability in the coastal zone of Montenegro was primarily done taking into account the impacts of noise, air and soil pollution. Moreover, these analyses have been joined with data on groundwater (only for the zones of sanitary protection) and sea vulnerabilities, as well as with the data on seismic hazard vulnerability. Joint vulnerability model for environment and human health has been prepared through integration of noise, air and soil vulnerability models. Models for groundwater (for sanitary protection zones only) and for sea with accidents, as well as model of vulnerability due to seismic hazard, which have been prepared as separate models and are discussed in more detail in the following chapters, have been also integrated. This joint model is prepared through application of two principles (two scenarios): principle of maximum value, and principle of regulated average value of each of the prepared sub-models. Principle of regulated average value includes expert evaluation of each sub-model in the cumulative model.

Using this Study as the source of input data the assessment of pollution/ the level to which the environment is endangered was done as an evaluation of the areas that have already been polluted to a certain level. The assessment included analysis of pollution on land (by processing various environmental segments and significant impacts on human health) and sea. As with vulnerability assessment, all input data used for the pollution assessment were official data of line ministries and responsible administration bodies tasked with monitoring and reporting on the state of environment and achieving improvements in certain environmental segments. To evaluate the level of pollution, reference values prescribed under national and international standards relevant for

the analysis of selected environmental segments and impacts on human health were used.

Comprehensive cartographic data set has been prepared for each segment of vulnerability and pollution assessment, as well as for the joint models. All maps have been integrated into CAMP GIS data base.

### **6. Targeted socio-economic analysis**

According to Inception report the aim of targeted socio-economic analysis is to obtain an insight into the key coastal socio-economic processes, to identify the obstacles related to them and the potentials for implementation of the integrated coastal zone management (ICZM) in Montenegro.

Socio-economic analysis gives a detailed presentation of the present situation and demographic trends in the area covered by the CAMP. The key questions addressed in the analysis of the present situation are related to demographic trends and determination of the index of demographic resources. Based on the index of demographic resources and education index, the study determined typology of spatial units that indicated to the existence of six demographic resources and described their basic characteristics.

Present economic infrastructure was analyzed and it focused on agriculture, tourism and planned investments. An overview of major resources for further development of coastal region was made. Apart from a general analysis of economy in the coastal region, the study looked into agriculture and tourism through analysis of present situation and projection of potential development trends given the present status of natural and demographic potential, attractiveness for the realization of investments in tourism projects and agricultural development projects, and identified and quantified anthropogenic pressures, majorly from the aspect of the urbanization of the coastal zone. For better understanding of the impact of

residential tourism on local population, a field research was conducted on the sample of the local population from all six municipalities, total of 601 respondents. The study determined factors that motivate construction of residential tourism facilities and it gives the assessment of the impact of construction on the characteristics of settlements there and on the life of domicile inhabitants. A list of green initiatives relevant for coastal region was presented.

Proposals for the measures of further socio-economic development expected to provide for sustainable development of coastal area are presented through a number of initiatives in compliance with the principles of green economy.

Analysis of socio-economic development of the coastal area of Montenegro for the purpose of the CAMP is based on the collection of relevant data, their consolidation, analysis, cross-tabulation and interpretation. The study relies on the available literature and documents generated within CAMP: General Vulnerability Assessment, Built-up Assessment, Assessment of Attractiveness and the Suitability of the Coastal Zone of Montenegro for Development of Agriculture. The potentials for development were identified as well as limitations to further valorization of those potentials and this was the result of a participatory process that brought together representatives of all interest groups at local and national levels ranging from representatives of local and national authorities to business organizations, entrepreneurs, non-governmental organizations and citizens.

The socio-economic analysis did not elaborate all outputs to the extent predicted with technical specification presented in Annex III of the Inception Report. So opportunities to control coastal development, in particular regarding tourism and residential tourism development, migration flows, as well as the cartographic presentations of the Impact of residential

tourism to the local socio-economic circumstances were not determined.

Apart from the above listed outputs for the activity B.1.2 Preparation of sectoral baseline studies of selected coastal subsystems, Inception report define obligation to develop criteria for the development of a vulnerability model and to prepare cartographic presentations of the analysis outcome and contribution to GIS database as the analysis outcome.

Cartographic presentations of each study and analysis outcomes have been prepared and integrated into CAMP GIS data base. Where appropriate graphic presentation of individual vulnerability models have been overlapped as to produce cumulative vulnerability models. Related information are presented above in reports for baseline studies, while elaboration of integrated CAMP GIS is presented under activity A2-training/capacity building related to CAMP GIS.

Selection of the criteria is crucial step in preparation of matrices with grades by categories for analysed individual data and/ or grades for combinations of data/ categories that referred to spatial situations affecting the level of vulnerability. The objectivity and validity of vulnerability assessment depend on the criteria selection. Concurrently selection of criteria may lead to a certain subjectivism since criteria selection and application is done by individual members of team of experts. In vulnerability assessment two tasks are important: division of space into homogenous spatial units, and assigning of grades to these units. The model or the obtained values need to provide an answer on what are the characteristics of the environment on which the magnitude of impact depends upon and in which way. Magnitude of an impact depends on the: (1) scope of expected change and (2) environmental quality. Values (grades) are assigned based on official measurement data, legal provisions on protection of certain units and/or space, and

deliberated expert judgement based on application of transparent criteria.

Valuation of vulnerability degrees by applying criteria for determination of grades was based on data elaboration in each baseline study and analysis. Vulnerability gradation was done on a scale from 1 to 5 by applying selected criteria or group of criteria. Comprehensive presentation of criteria can be found in document "Assessment of General Vulnerability".

### B.1.3 Coastal vulnerability, attractiveness and suitability assessment

According to the Inception Report the coastal vulnerability and suitability assessments was planned to be undertaken based on the baseline studies inputs.

It was defined that the most important step of these analyses was describing the nature of interactions between human action and natural processes in a form which is applicable for further processing and useful in the spatial planning process. This step is called "suitability modelling" and can be to a different extent formalised and quantified. Suitability modelling involves: identification (and mapping) of spatial characteristics (factors) which are relevant for concerned land uses, description of their interrelation (value) for individual land uses, mapping the values and overlay of value maps (definition of aggregation function).

Criteria for evaluating **suitability** can be roughly divided according to two basic value systems – developmental and conservative. Developmental interest is described by opportunity (**attractiveness**) criteria. These reveal favourable conditions for land use, which can be expected to improve its output (such as vicinity of infrastructure in case of industry, fertile soils for agriculture, etc.). Limitation (**vulnerability**) criteria represent, on the other hand, the need for the protection and reveal the conditions, which may trigger increased environmental

impacts in case of land use (i.e. vicinity of housing for industry or ground water reservoirs for agriculture).

As the main **objectives** of the activity the following were defined:

- provide support for the SPSPCZ MNE and for the ICZM Plan preparation in optimizing the use of territorial resources by distribution of land uses;
- provide capacity building on vulnerability and suitability modelling to Montenegrin CAMP and SPSPCZ MNE teams.

As the specific detailed **objectives** of the activity the following were defined:

- to support the preparation of the Coastal Area Spatial Plan – SPSPCZ MNE (as part of the ICZM Plan preparation);
- to evaluate the vulnerability, attractiveness and suitability of the CAMP area (six coastal municipalities) in accordance with the methodology proposed by the PAP/RAC. A general assessment of the entire CAMP area shall be performed, focusing on obtaining objective criteria for deciding on the site of a specific territorial intervention and determine impacts associated to different activities/land use(s);
- to prepare proposals to facilitate decision-making with respect to the prioritised problems, above all by identification of areas with conservation or development priority, optimization of land use and preparation of guidelines for technological improvements of activities/land use(s) in a way to enlarge effectiveness and mitigate environmental impacts.

It was suggested to give specific attention at:

- the identification of values in specific areas such as parts of a narrow coastal zone (within the setback zone), areas of valuable ecosystems, areas with planning dilemmas, alternatives or conflicts, areas with

investment pressure, including tourism opportunity areas;

- the Identification of those areas where the installation of topical activities/land use, including possible new activities/technologies (such as wind farms or solar energy facilities, greenhouses) would be the most suitable.

**Actions** to be implemented included:

- a detailed determination of a methodology;
- determination of the scale of the project and considering variables of the study;
- data gathering;
- vulnerability modelling;
- attractiveness modelling;
- suitability modelling;
- interpretation of results;
- during the vulnerability/attractiveness/suitability modelling, providing trainings and capacity building programmes, primarily for the members of the CAMP.

**Outputs** of the activity included:

- methodology;
- data base;
- vulnerability models;
- attractiveness models;
- suitability models;
- interpretative report;
- training materials.

Technical description of the activity was presented in Annex IV of the Inception Report.

### **CAMP response**

Assessment of the coastal vulnerability, attractiveness and suitability is a key activity of CAMP Montenegro. Concurrently it is the most complex activity from the point of technical, human and final needs and requirements. Its application was first developed and tested in the

framework of CAMP in accordance with the Protocol on ICZM and national regulations, primarily in accordance with the Low SEA and the Law on Spatial Planning. Although domestic legislation sets the legal basis for the application of this instrument group, the existing spatial planning system, databases and decision-making system significantly showed divergence compared to the needs related to introduction of this group of instruments.

This activity' outputs are:

- General Vulnerability Assessment of the Coastal Area of Montenegro
- Vulnerability Assessment of the Narrow Coastal Area,
- Assessment of Attractiveness and Suitability of the Coastal Zone of Montenegro for Development of Agriculture.

In the text below each CAMP' output is elaborated through presentation of the methodology of work, actions that are realized with related outcomes and related process of work having Inception Report as the methodological and programme organization key guiding document.

### General Vulnerability Assessment of the Coastal Area of Montenegro

In line with the Protocol on Integrated Coastal Zone Management in the Mediterranean and in the context of conducting analyses needed for spatial planning and environmental protection, **assessment of general vulnerability** based on vulnerability of individual environmental segments is one of the most important CAMP actions. Moreover, existing **pollution (the extent to which the environment has been endangered)** of individual environmental segments has been analysed as a specific characteristic. Results of the assessment served as one of the baselines for defining spatial vulnerability and for identifying remediation measures.

Spatial vulnerability is defined as a condition of the environment, space, soil or phenomena which can give rise to negative impacts in case certain intervention is implemented.

Vulnerability assessment or determination of sensitivity/ susceptibility of space is a method used to determine more vulnerable (that is unsuitable) spatial segments for the given (planned) intervention or activity.

However, in order to still determine parts of space that are **suitable** for specific activities, in addition to vulnerability assessment it is necessary to evaluate space in relation to development goals within the **attractiveness assessment**. The next step is to compare and harmonise protection and development goals within the **suitability assessment**.

The flow of vulnerability assessment within CAMP Montenegro as well as potential uses of its results are presented in a graphic manner in the Figure 1.

Assessment of general vulnerability is not an independent assessment *per se* – it is rather a baseline for preparation of the SPSPCZ MNE as well as for the NS ICZM. **The assessment determines the most valuable spatial units that should be preserved from future degradation i.e. those spatial segments that are unsuitable (or less suitable) for planning of certain activities or interventions.** Results of the vulnerability assessment require two principles of data processing in the spatial plan:

- Spatial and siting improvements in a sense of location changes for given interventions and definition of alternative solutions for determining land uses; and
- Defining options in the context of technological improvements, changing existing technologies and introducing advanced technological alternatives and/ or spatial solutions.



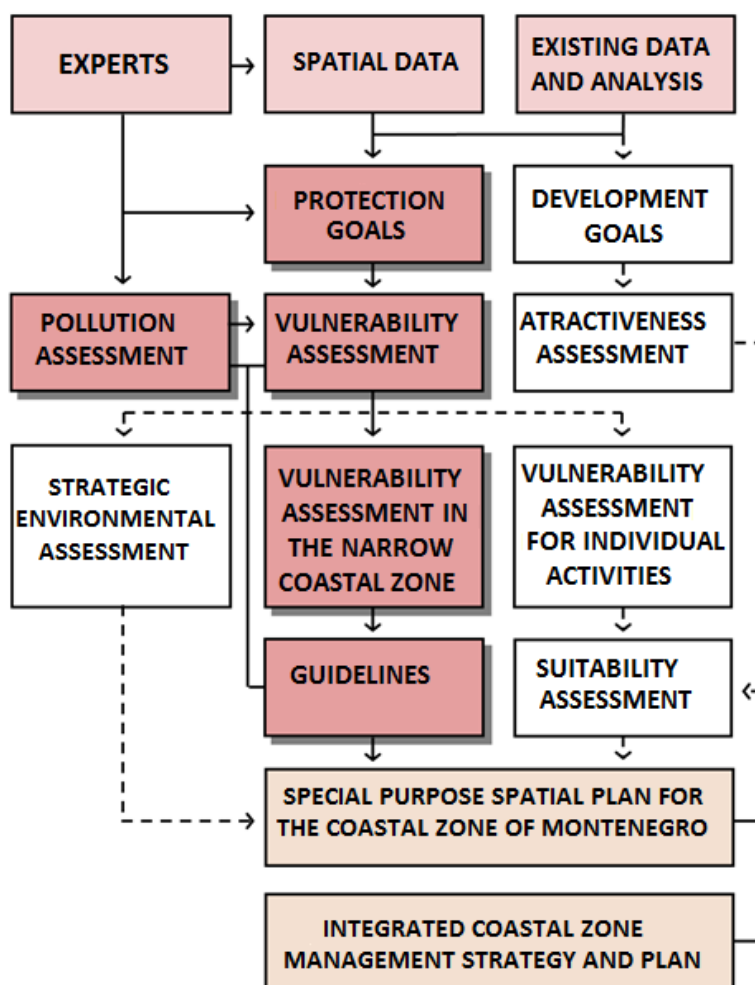


Figure 1: Flow chart for vulnerability assessment within CAMP Montenegro and possible uses of results (white cells)

### Method of work

Method of work for the assessment of general vulnerability was based on processing and analysing selected environmental segments and on preparation of vulnerability and pollution models. Environmental segments that have been considered in the assessment were selected in line with the Law on Strategic Environmental Assessment<sup>1</sup>. The following models of vulnerability and pollution have been prepared:

1. **Environment and human health** (noise; air pollution; soil pollution at *hot spot* locations;

joint vulnerability model for environment and human health);

2. **Flora and fauna – biodiversity** (flora and fauna; nature protected areas; marine biodiversity; joint vulnerability model for flora and fauna i.e. for biodiversity);

3. **Soil** (erosion; agriculture and agricultural land; seismic hazard);

4. **Water** (terrestrial ground waters; terrestrial groundwater; sea);

5. **Air/Climate, climate change** (droughts; forest fires; heavy rains; storm winds; joint vulnerability model for climate change); and

6. **Landscape**.

Baseline studies presented above in B 1.2 served as the platform for general vulnerability assessment. Information there presented,

<sup>1</sup> Cultural heritage and material assets vulnerability was not prepared due to a lack of digitalised data.

especially for the Study of the status of the coastal area provides detail overview of the preparatory and data gathering stage of relevance for data collection, elaboration and validation, as well as the procedure for development of the criteria for making assessment of the vulnerability for above listed environmental segments. Taking that into account, in this section there is presentation of full methodology and process for assessing the vulnerability and pollution of the coastal area.

A founding step in developing vulnerability and pollution models was selection of the key environmental segments significant in the context of SPSPCZ MNE development. Having in mind selected segments, models have been prepared in several steps:

1. **Conceptual** model development which entailed initial determination of higher or lower vulnerability of environmental segments;
2. Determining a **set of relevant data** through an analysis of individual data;
3. Preparation of **matrices with grades by categories** for analysed individual data and/or grades for combinations of data/categories that referred to spatial situations affecting the level of vulnerability;
4. **Graphic presentation** of individual and joint models, as well as of models of cumulative vulnerability/ pollution;
5. **Comments** that presented analysis of acquired results, including warnings on possible shortcomings of the model;
6. **Guidelines** that included:
  - a) recommendations for the preparation;
  - b) remediation measures;
  - c) description of further work.

Based on the expert matrices, individual models have been prepared (as graphic presentations) representing basic potential vulnerability i.e. showing individual zones of exceptional value which are thus more susceptible to changes/

damages. Where it made sense, **joint models** have been prepared by segment entailing individual models and showing a more complex/ complete vulnerability of various environmental segments. For some segments (sea, environment and human health), model of the **extent to which the environment has been endangered/ polluted** has been prepared, meaning that there are individual or joint models showing zones where negative changes have already taken place. Information on the extent to which environment has been endangered/ polluted is partially integrated in the vulnerability models but is also presented as a separate model.

In the concluding part of the assessment, **models of cumulative vulnerability** i.e. **pollution** have been prepared, which entailed joining together (overlapping) of individual and/or joint models prepared for different environmental segments. These models represent synthesis part of the assessment of general vulnerability. The entire assessment has been prepared in various ways whereas each way contains specific information and matches different environmental protection scenarios:

1. Model of cumulative vulnerability according to the **principle of maximum value**;
2. Model of cumulative vulnerability according to the **principle of regulated average value**;
3. Model of cumulative vulnerability according to the **principle of direct valuation of the most significant components**. These models have been prepared for two possible scenarios:
  - scenario of pronounced protection of the most significant environmental components/segments;
  - scenario of the lowest level of acceptable protection (legally prescribed level of protection) of some environmental components/segments.

Moreover, other models have been prepared while addressing specific environmental

segments. These models can be observed independently and include:

1. climate vulnerability, that is vulnerability to **climate change**;
2. total pollution/ the extent to which the **environment and human health** are endangered, through presentation of the areas where environmental remediation needs to be undertaken (for *hot spot* locations and other sources of pollution);
3. total pollution/ the extent to which the **sea** is endangered, which indicates areas where remediation of marine *hot spot* locations needs to take place; and

4. as a separate conclusion or segment, **accidents** have been considered – this type of vulnerability does not result from vulnerability to interventions i.e. to land use changes, but from probability of accidents occurring at the sea.

Raster way of work was applied when these models were prepared. Information and grades were used in models in various ways, depending on the model's concept and specificities of the environmental segment being processed. Modelling was done with the application of ProVal2000 programme, whereas application of any GIS programme platform was also possible.

Principle of preparation of vulnerability model is shown in a graphic manner in the Figure 2.

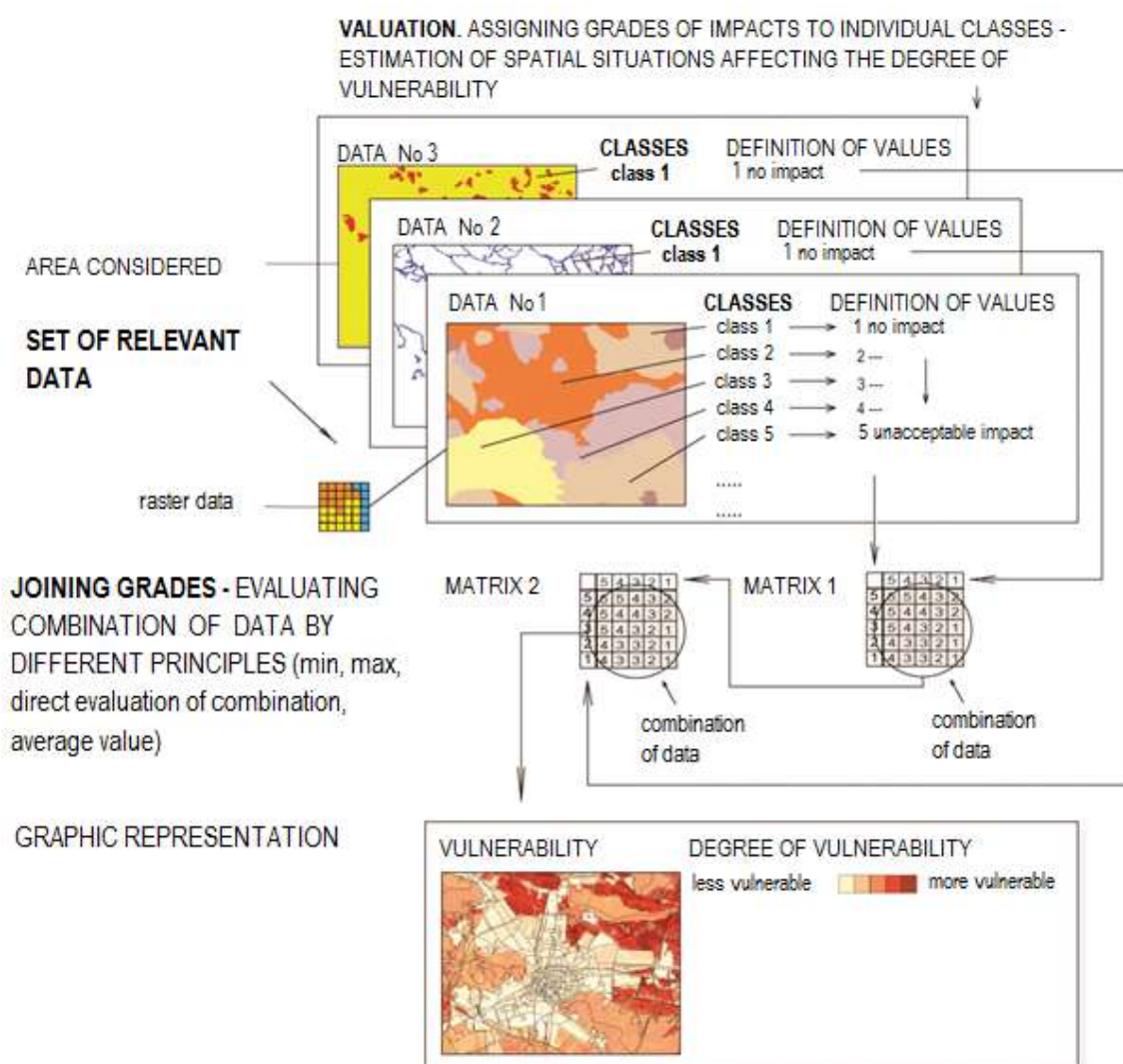


Figure 2: Principle of development of vulnerability model

### Manner of assigning grades

As it is explained above in B.1.2 in spatial modelling that entails vulnerability assessment two tasks are important: division of space into homogenous spatial units, and assigning of grades to these units. The model or the obtained values need to provide an answer on what are the characteristics of the environment on which the magnitude of impact depends upon and in which way. Magnitude of an impact depends on the: (1) scope of expected change and (2) environmental quality. If the scope of expected change is greater, a larger impact on the environment is expected and consequently higher vulnerability of the area, and *vice versa*. In other words, if environmental quality is better, it is considered that a change would have a larger impact on the environment thus resulting in higher vulnerability of the area and *vice versa*. Values (grades) are assigned based on official measurement data, legal provisions on protection of certain units and/or space, and deliberated expert judgement based on application of transparent criteria.

Valuation of vulnerability degrees and general criteria for determination of grades are shown in the Table 1.

Evaluation of vulnerability depends on natural characteristics, existing land uses and potential for particular uses, and in some segments (such as sea, environment and human health) it also depends on the evaluation of the extent to which specific area is endangered/ polluted. Dilemma with evaluation of degraded/ endangered i.e. polluted areas is basically one of the central dilemmas of protective planning. In some situations, however, a different approach can be taken (based on certain goals and expert judgements). **If some parts of the environment are already polluted** (e.g. by noise or emissions to air) **above the legally permitted level or to the extent where new interventions** (new emissions) **would lead to increase in pollution above legally permitted levels, such areas are**

**considered as highly vulnerable.** Impact of new interventions i.e. land use changes would be inadmissible/unacceptable unless remediation measures were implemented to address the existing pollution.

**Table 1: Evaluation of vulnerability with general criteria for determining grades and colour in graphic representations**

Vulnerability grade	Criteria
1	<b>Very low vulnerability.</b> In case of an intervention i.e. land use change, there is no impact or the impact is negligible.
2	<b>Low vulnerability.</b> In case of an intervention i.e. land use change, impact is moderate –meaning a small/moderate change in environmental components which is not particularly qualitatively defined and/ or can be easily remedied.
3	<b>Medium vulnerability.</b> In case of an intervention i.e. land use change, impact is significant – meaning a major change in environmental components and/ or difficult remediation.
4	<b>High vulnerability.</b> In case of an intervention i.e. land use change, impact is highly significant – meaning a very large change or loss of environmental components which is qualitatively defined and/or is very difficult to be remedied.
5	<b>Very high vulnerability.</b> In case of an intervention i.e. land use change, impact is inadmissible/ unacceptable, it exceeds tolerance threshold meaning a very large change or loss of environmental components which is particularly qualitatively defined and/ or is not possible to be remedied.

### ***Evaluation of pollution/ the extent to which an area is endangered***

The level of pollution in a given area is evaluated based on the prescribed quality standards that are primarily set with the objective to protect human health and the environment. Grades are based on official measurement data, legal provisions for protection of certain units and/ or space, and deliberated expert judgements based on application of transparent criteria. **Due to importance of the extent to which an area is endangered/polluted, evaluation of the level of pollution is also shown as parallel, distinct information. This information indicates what are the areas/phenomena for which it is necessary to implement remediation measures and serves as a basis for identification of remediation measures that need to be integrated in the spatial plan.**

Evaluation of the extent to which an area is endangered/polluted and criteria for determining grades are shown in the Table 2.

#### ***Comments and guidelines***

**Comments** have been prepared in the final stage presenting analysis of the acquired results, including warnings on possible shortcomings of the model as well as **guidelines** that include:

1. recommendations for the SPSPCZ MNE preparation;
2. remediation measures; and
3. description of further work.

Results of the analysis have been prepared in a way so they can be used for:

- development of vulnerability assessments for individual activities i.e. development of suitability assessment; and
- strategic environmental assessment.

**Table 2: Evaluation of the extent to which an area is endangered/ polluted with general criteria for determining grades and colour in graphic representations**

<b>Grades for the extent to which an area is endangered/pollution</b>	<b>Criteria</b>
<b>1</b>	No impact or negligible impact
<b>2</b>	Moderate impact
<b>3</b>	Significant impact
<b>4</b>	Highly significant impact
<b>5</b>	Inadmissible/ unacceptable impact

### **Vulnerability Assessment of the Narrow Coastal Zone**

The next phase of the vulnerability assessment of space is based on **detailed analysis of vulnerability in the narrow coastal zone** that was also used for determination of the set-back line i.e. for determination of the zone with restricted or prohibited construction along the shoreline in accordance with the ICZM Protocol.

**Detailed Vulnerability Assessment of the Narrow Coastal Zone** represents an amendment to the Assessment of General Vulnerability. The purpose of this analysis was primarily **to prepare expert baselines for identification of areas where conditions exist for expansion of the coastal set back** i.e. of the zone where construction along the shore is limited or prohibited in line with the ICZM Protocol.

In order to prepare Vulnerability Assessment of the Narrow Coastal Zone and Analysis for Defining the Coastal Set Back Zone (especially for determination of areas where adaptation leading to a decrease of the coastal set back is not possible) as well as for other spatial planning activities in the coastal zone the following individual assessments and studies have been completed:

- habitats mapping for selected locations (Long Beach Ulcinj, Buljarica, Platamuni, Tivat

- Salt pans) and assessment of their vulnerability;
- erosion map of the immediate coastline;
- study of seismic micro-zoning in coastal municipalities of Montenegro;
- study of storms in the Montenegrin coastal region; and
- sea level rise study.

### **Method of Work**

Model of vulnerability assessment of the narrow coastal zone is based on direct evaluation of the most significant environmental elements singled out and analysed in line with the article 10 of the Protocol on Integrated Coastal Zone Management in the Mediterranean which determines protection of the following specific coastal ecosystems:

- wetlands and estuaries;
- marine habitats<sup>2</sup>;
- coastal forests and woods; and
- dunes.

These ecosystems are considered to be areas of very high vulnerability.

Besides specific coastal ecosystems, the following aspects were taken into account as additional arguments for expanding the coastal set back in the vulnerability assessment of the narrow coastal zone:

- Nature protected areas are areas where unsuitable/extensive construction could endanger natural characteristics that are being preserved, while construction is prohibited in nature reserves (e.g. Tivat Salt pans);

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<sup>2</sup> Requirement on preservation of marine habitats does not affect directly expansion of the coastal set back as they are located in the marine part of the Montenegrin coastal zone. Preservation of marine habitats and of marine biodiversity needs to be ensured through consistent limitations to the development of marinas, ports, docks and other structures in the zones of significant marine habitats (see conclusions of the General Vulnerability Assessment).

- Areas of excessive erosion – abrasion are areas where implementation of coastal zone erosion protection measures and suitable planning is necessary;
- Areas of very high seismic vulnerability are areas which are absolutely not recommendable for planning and construction of built structures;
- Water springs protection zones I (zones of direct protection) with strict protection regime, mineral springs and zones with peloid deposits represent limits for construction;
- Areas with significant impacts of storms and sea level rise i.e. areas where due to storms and sea level rise major changes in the shore line are happening must be taken into account with a view to expanding coastal set back so that determination of the coastal set back zone will be based on a definition of the shore line having in mind sea level rise and additional negative impacts of storms from the marine side (see subsequent elaboration);
- Non-built areas: expanding coastal set back is only justified for (partially) non-built areas.

For vulnerability assessment of the narrow coastal zone, data have been classified into most important ones – i.e. around environmental elements singled out and analysed in line with the article 10 of the Protocol on Integrated Coastal Zone Management in the Mediterranean, and into additional ones gained through vulnerability assessment of the coastal zone as well as through individual analyses and studies conducted for the purpose of assessing vulnerability of the narrow coastal zone such as:

- habitats mapping for selected locations (Long Beach Ulcinj, Buljarica, Platamuni, Tivat Salt pans) and assessment of their vulnerability;
- erosion map of the immediate coastline;
- study of seismic categorisation of space in coastal municipalities of Montenegro;

- study of storms in the Montenegrin coastal region;
- sea level rise study.

Graphic supplements provide a preliminary illustration of the areas where conditions for expanding the coastal set back zone exist, while as guidelines for determination of the coastal set back line will be defined through the respective analysis.

### Assessment of Attractiveness and Suitability of the Coastal Zone of Montenegro for Development of Agriculture

Agricultural sector plays an important role in Montenegro's economy, with a growing share in gross domestic product which reached the level of 8% in 2011. Difficulties encountered in agricultural development are related to the excessive imports and a number of reasons that have led to economic stagnation in the earlier

period. Balanced development of a country such as Montenegro requires clearly defined role of agriculture and support to its development since there can be no regional and rural without agricultural development. Therefore the attractiveness and suitability assessment of the coastal zone was decided to be prepared for agricultural development. It formed foundation for preparation of the SPSPCZ MNE and NSICZM. Results of the assessment may also be used in preparation of municipal plans and strategic documents in the field of agriculture. In a methodological sense the purpose of this study is to show how (spatial) assessment of attractiveness and suitability of the coastal zone is prepared by using GIS (Geographic Information System). Schematic overview of the Assessment of Attractiveness and Suitability of the Coastal Zone of Montenegro for Agriculture is presented in the Figure 3.

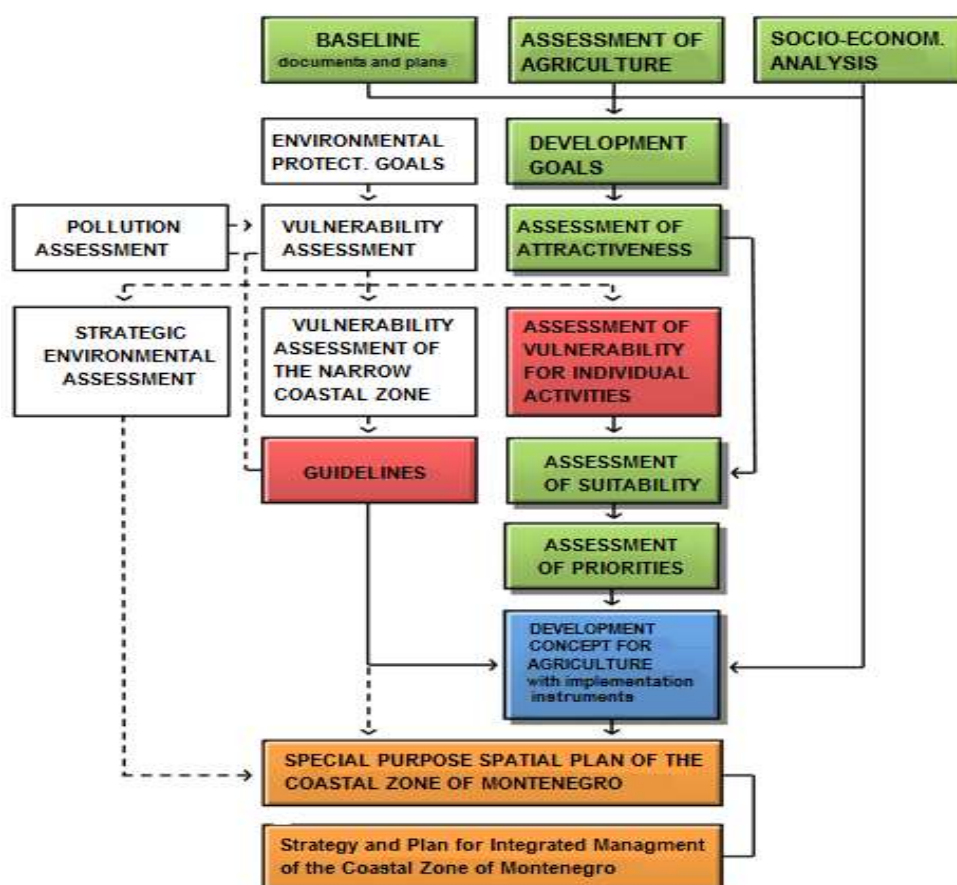


Figure 3: Schematic overview of the Assessment of Attractiveness and Suitability of the Coastal Zone of Montenegro for Agriculture

**Method of Work**

In preparing the model of attractiveness and suitability of the coastal zone for the development of selected agricultural sectors, spatial analysis was carried out comprising attractiveness assessment, vulnerability assessment and assessment of the suitability of space. Graphical overview of individual phases of the analysis is presented in the Figure 4.

The purpose of the spatial assessment of attractiveness for agricultural development is to determine those parts of space in which it would be justified to preserve the existing agricultural

areas in the long run and to establish, in the most efficient manner, new areas with the most important crops for the coastal zone. To this end, it is necessary to carry out valuation of space against environment protection goals set in the vulnerability assessment in the planning process. Protection and development goals are compared and harmonised in the assessment of suitability of space for agricultural development by seeking more attractive and less vulnerable areas of the space and by using results of the general vulnerability assessment.

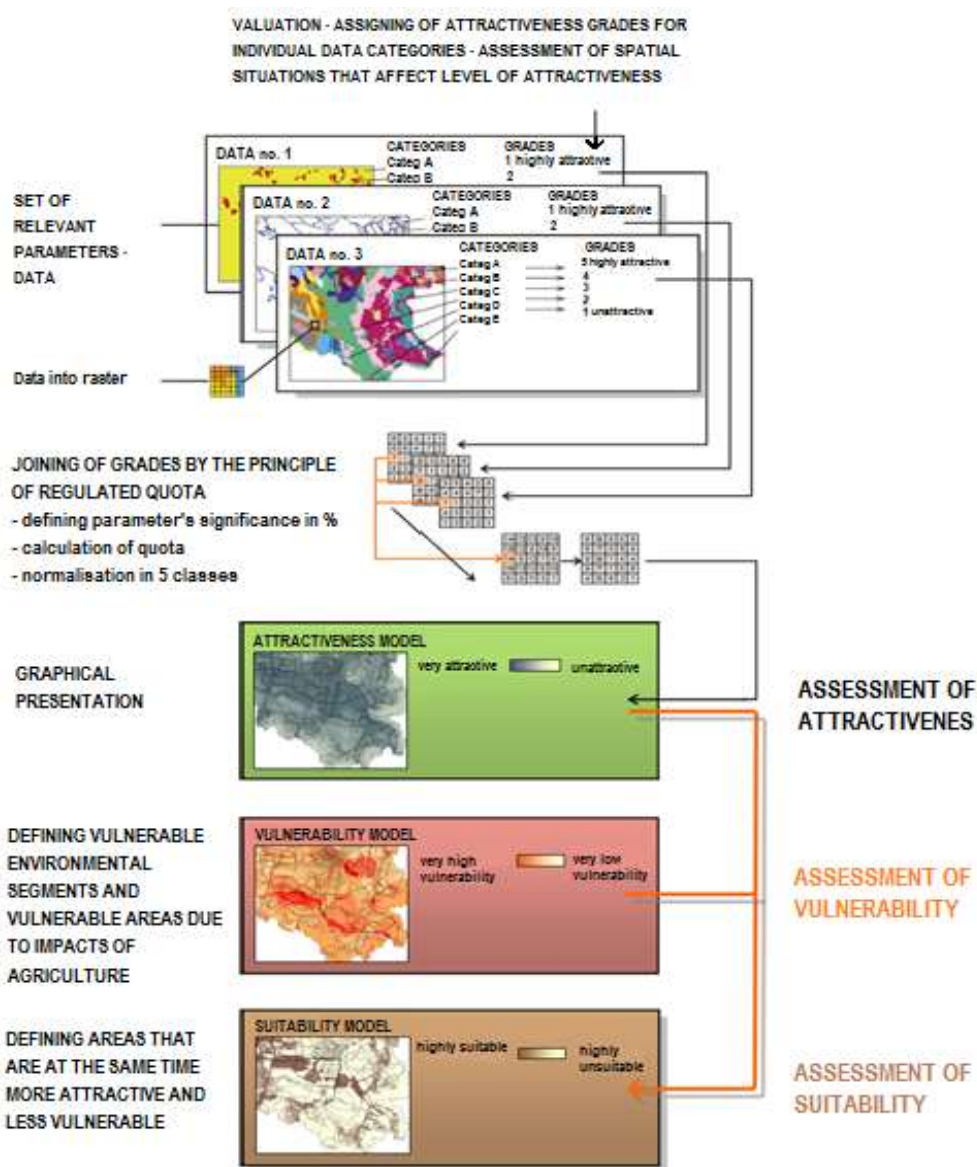


Figure 4: Steps in development of the model of attractiveness and suitability of the space for agriculture



The assessment of attractiveness and suitability of the coastal zone of Montenegro for the development of selected agricultural sectors uses raster based method which is why the unit of division is represented by a raster cell, while the assigned values are information (data categories) in the cell. Dimensions of raster cells are 25 x 25 m. The modelling was prepared by using ProVal2000 application.

Agricultural sectors addressed in this analysis were selected on the basis of analysis of the current condition and development potential of the coastal zone. These are olive, citrus and grape wine growing, livestock (small ruminants) breeding and beekeeping.

For the assessment of attractiveness of the above mentioned agricultural sectors attractiveness matrices were prepared in which soil attractiveness was evaluated by assigning scores from 1 (unattractive) to 5 (very attractive) according to the following parameters/ criteria and their sub-criteria: slope of terrain, altitude, sun exposure/ exposition of terrain, soil quality, supply of irrigation water, and basic infrastructure. Since not all the parameters are equally important, in combining/ joining them in the overall attractiveness model, each parameter and their sub-criteria were attributed a score of relevance based on expert judgement. Data (both, graphical and analytical) available through the sources of official institutions were used for the selected criteria (for example: pedological map 1:50000, source: University of Montenegro – Biotechnical Institute; atlas of pedological maps 1:50000 (2000 Podgorica), source: database of the Montenegrin Institute for Hydro-meteorology and Seismology, etc.). Each individual score is accompanied by a qualitative expert assessment.

Graphical presentations/ overviews of spatial modelling for each of the analysed parameters were prepared based on performed attractiveness assessment of space by using ProVal2000 application. By overlapping maps

drawn for different parameters, graphical overviews of joined attractiveness models for individual agricultural sectors were obtained with differentiation between less and more attractive zones for growing the crop in question i.e. for performing respective agricultural activities (accompanied with statistically substantiated overviews of surfaces in each of the five categories ranging from unattractive to highly attractive agricultural land). In the next phase, and in the context of development of the suitability model, vulnerable environmental segments were identified in relation to agricultural development (overview of environmental segments was taken from the study General Vulnerability Assessment prepared in the framework of CAMP Montenegro). Related to this part of work, it was concluded that current agricultural activity does not have significant negative impacts on environmental segments. Therefore, having in mind significant negative impacts of other activities on agriculture and constant reduction of the size of agricultural land, **assessment of suitability for agriculture was by its concept defined as a developmental one**. This means that in comparing and harmonising protection and development goals in the suitability model, priority was given to the development goals of agriculture, i.e. to the areas that are more attractive for agricultural development. In this way, **larger scope of areas that are considered highly attractive for agriculture are at the same time considered as highly suitable for development of agriculture.**

The assessment of suitability for growing olives, citruses and grape vine was prepared by combining attractiveness model with the model of vulnerability of ground water (zones of sanitary protection and springs) i.e. with the model setting out the possibilities for irrigation. Vulnerability assessments and attractiveness assessments are combined in suitability assessment by following the principle demonstrated in the Table 3.

Table 3: Principle for assigning suitability scores

Suitability score		Attractiveness Assessment				
		Unattractive (1)	(2)	(3)	(4)	Very attractive (5)
Vulnerability assessment	Very low vulnerability (1)	1	2	3	4	5
	Low vulnerability (2)	1	2	3	4	5
	Moderate vulnerability (3)	1	2	3	3	4
	High vulnerability (4)	1	2	2	2	3
	Very high vulnerability (5)	1	1	1	1	1

The suitability assessment for olives, citrus and grape vine showed there were several areas suitable for two or for all the analysed crops at the same time. That is why **overlapping of suitability for several crops was carried out. The results indicated possible flexibility of agriculture (conditions to shift from one variety to another) in certain areas and therefore their high significance, which makes strategic preservation of agricultural land within these areas justifiable.** To that end, **prioritisation** (priority setting) was carried out in the areas in which there is overlapping of suitability for two or more crops. The purpose of this analysis was to identify priority areas for certain crops.

On the basis of the results obtained through attractiveness and suitability assessment, the guidelines and recommendations relevant for preparation of the SPSPCZ MNE and NS ICZM. At the same time, these are relevant for preparation of the documents in the fields of agriculture and economy.

### Process of Work

The baseline studies and analysis for each environmental segments and phenomena have been evaluated and reviewed by the National Project Co-ordinator for CAMP. Based on the evaluation findings, Vulnerability Assessment Leading Expert, PAP/RAC Programme Officer and National Project Co-ordinator for CAMP defined

the directions to finalize the vulnerability assessment. The evaluation of the expert inputs included:

- Validation of the consistency of the expert inputs and meta data there were used (as an element of baseline studies development);
- Validation of the source of meta data due to data management principle that requires use of the officially approved and published data by institutions of public administration: line ministries, Environmental Protection Agency, Hydrometeorological and Seismology Institute, Geology Survey Institute, etc. (as the element of baseline studies development);
- Evaluation of the consistency among different expert inputs, including the consistency among the textual analyses and the cartographic layers/presentations;
- Identification of the elements to be amended and modified;
- Identification of the needs for amendments of the cartographic layers.

Development of the General Vulnerability Assessment and the Vulnerability of the Narrow Coastal Area has been conducted during 2012. Thereby the expert team has faced with a number of problems, out of which the most relevant are:

- lack of ortho-photo image of the coastal areas from 2011 (it became available only in November 2012);
- non finalized the synthetic urbanization/ construction map of the coastal area of Montenegro and analysis of the status of urbanization of the coastal area (these were responsibilities of the RZUP as the developer of the SPSPCZ MNE);
- lack of a digital elevation model;
- lack of meta data in digital forms;
- lack of cooperation with some local authorities that were not making available data of relevance for local level.

Although Vulnerability of the Narrow Coastal Area was not originally planned, its realization was launched in September 2012. Given the needs in terms of capacity of spatial planning team were far greater than assumed, as well as the unexpected disadvantages, it was necessary to make vulnerability assessment of the narrow coastal area with related additional detailed analysis (habitats mapping for selected locations and assessment of their vulnerability; erosion map of the immediate coastline; study of seismic micro-zoning; study of storms and sea level rise study). In parallel in October 2012 there was an extensive second expert review of the General Vulnerability Assessment.

Following the consultations of the CAMP management team, the documents related to the vulnerability assessment of the narrow coastal area have been prepared for discussion at the Workshop that was organized in the period 11–14<sup>th</sup> February 2013 in Podgorica. On that occasion the methodology for making the vulnerability assessment of the narrow coastal area was amended and concluded.

Calibration of general vulnerability assessment was also realized in February 2013. It was preceded with harmonization of the General Vulnerability Assessment with SPSPCZ MNE during January 2013. After harmonization, the

General Vulnerability Assessment was delivered to RZUP as Developer of the SPSPCZ MNE with caution that calibration results related to precise identification of the conflict zones will be submitted in addition. The test of calibration indicated high compatibility of the general vulnerability assessment results, but also provided significant information about unsustainable trends in planning future use of space in the coastal area.

In December 2012 a series of technical failures was recorded in synthetic map of the construction of the coastal area. It did not provide enough reliable information on planning future use of the space in the narrow coastal area. Therefore in consultation with the Department of Spatial Planning in MSDT and Developer of SPSPCZ MNE the necessity of completing development of the synthetic map was pointed out. Its availability was also a precondition for making calibration of the results of the General Vulnerability Assessment of the Coastal Area of Montenegro.

After that CAMP expert reviewed a new version of synthetic map that was delivered in January 2013. However a number of technical failures were recorded again. In this regard detailed expert opinion, including a number of recommendations, has been prepared. The opinion has highly relied on the fact that synthetic map is basis for planning the use of space in SPSPCZ MNE, as well as for calculation of the indicators for rationale use of the construction land. Improvement of the synthetic map was possible by making the generalization of the spatial planning categories through reduction of a number of categories for planning future use of space and through reduction of a number of polygons. Due to lack of capacities of RZUP, as developer of SPSPCZ MNE, to deal with the above quoted tasks by using GIS tools, the CAMP team decided to accommodate the expert support by providing common desk work with SPSPCZ MNE spatial planning team (3 days expert mission to RZUP was organized in the period 7–9<sup>th</sup> of February 2013).

Following the finalization of the Synthetic map it was possible to make the calibration of the results of the General Vulnerability Assessment of the Coastal Area of Montenegro and to make the analysis of the urbanization of the coastal area of Montenegro. Since scenarios for development of the coastal area, as the main platform that was proposed by RZUP, was not positively assessed by the Council for Spatial Planning and CAMP team, it was not realistic to expect that the Draft of the SPSPCZ MNE can be finalized by the end of July as it was announced earlier. At the same time RZUP announced that a new version of the synthetic map was prepared. It was submitted with a delay, on 15<sup>th</sup> of June, that caused the revision of all CAMP results prepared during 2013, especially vulnerability assessment and spatial planning components since they were based on the previous versions of synthetic map.

Upon receiving the new version of the Synthetic map, it was considered by the CAMP expert team. The difference between two synthetic maps versions was 30% or 79 km<sup>2</sup> of constructed areas that were added or deleted from the version of the map that was produced in February. Such a huge difference stopped finalization of all CAMP results, but also caused a need for revision of all results of the General Vulnerability Assessment of the Coastal Area of Montenegro and the Vulnerability Assessment of the Narrow Coastal Area that have been already produced.

Due to fact that the entire process of CAMP was jeopardized, the consultations at policy and political level have been initiated by the CAMP National Project Co-ordinator and the PAP/RAC Programme Officer. Therefore it was agreed to organize the Workshop with the aim to consider two main groups of the most important issues:

1. Implementation of the Article 77 of Regulation on Closer Contents and Form of the Planning Document, Criteria for the Use

of Space, Elements of Urban Regulation and Unique Graphic Symbols; and

2. Gaps and problems in finalizing the synthetic map. The Workshop was organized on 10–12<sup>th</sup> of July 2013. After improvement of the synthetic map, the finalization of the General Vulnerability Assessment of the Coastal Area of Montenegro, the Vulnerability Assessment of the Narrow Coastal Area of Montenegro, the Built up Assessment, including the statistical analyses of the results of the vulnerability and suitability assessment, were conducted.

Based on the preparatory phase in terms of data collection, and by taking into account results of the vulnerability assessment and lack of tourism development scenarios in the framework of SPSPCZ MNE development, it was decided to apply the methodology of the attractiveness assessment in the sector of agriculture. In the period January-February 2013 the extensive consultations with the aim to reach the final agreement on the methodology for attractiveness assessment of the agriculture have been realized. Following given directions the concept for the Assessment of the Attractiveness of the Agriculture has been finalized, including ToR for recruitment of the additional high profile experts in the field of agriculture.

That concept was applied by the national experts for agriculture in order to make the assessment of the attractiveness of the coastal area for growing the olive, citrus, winery, livestock and beekeeping. Taking into account the basis for attractiveness assessment that was prepared by using the results of the General Vulnerability Assessment and desk work of the CEED related to the economic background analysis, the expert team for agriculture developed the goals, the concept and the evaluation tables for assessing the attractiveness of the coastal area for agriculture. Since the results of attractiveness assessment were obtained, the assessment of

the suitability of the coastal zone for growing olive, citrus and winery was also conducted.

Assessment of Attractiveness and Suitability of the Coastal Zone of Montenegro for Development of Agriculture was prepared in October 2013, while final amendments have been done by the beginning of 2014.

**In accordance to the facts presented above, it should be highlighted that the vulnerability assessment of the coastal area was significantly expanded which resulted in delay the completion of vulnerability assessment - instead of in September 2012 it was completed in June 2013, with final amendments of document until the end of 2013, and completion of attractiveness and suitability assessment by the end of 2014. There are two key factors that have conditioned the extension of the work: the necessity to enable CAMP team to provide technical support to spatial planning team in the development of synthetic map and development scenarios of coastal area without which it was not possible to conclude vulnerability assessment and needs to replace missing input data and analysis, as previously stated.**

#### **B.1.4 Inputs for the coastal carrying capacity, especially regarding the capacities in the sector of tourism development**

Inception report defined the key **objective** of this activity is to offer possible tools for the planning of coastal activities (particularly tourism) by means of respecting assimilating capacities of coastal ecosystems, socio-economic characteristics of coastal settlements, and the existing (and possible) infrastructural development. This activity will be based on the outcome of targeted socio-economic analyses and the outcome of vulnerability analysis. The outcome of this activity will, *inter alia*, be used in the preparation of a beach management study.

**Actions** to be implemented are:

- offering, in co-operation with the SPSPCZ MNE Developer and working group for this activity, a methodological framework for carrying out the activities, primarily through the definition of elements of the carrying capacity assessment that are particularly relevant for the coastal area in Montenegro and transformation processes to which it has been exposed;
- analysing the selected elements of the carrying capacity, estimating acceptable limits (thresholds) of such elements and, if possible, defining them by means of appropriate criteria and indicators;
- offering guidelines that would assist the SPSPCZ MNE Developer in formulating the sustainable development scenario (model) for the coastal area, particularly in allocating and identifying capacities of the area for the activity development, especially tourism.

Expected **outputs** of this activity are:

- draft methodological guidelines for carrying out an assessment of the coastal carrying capacity;
- analysis of selected elements of carrying capacity, which are particularly important for the development of tourism.

#### ***CAMP responses through development of the „Tourism Carrying Capacity of the Montenegrin Coastal Area“***

The purpose of this analysis was attempt to assess the maximum capacity of the coastal zone for the future tourism development. It is prepared in accordance with other planning documents dealing with the coast of Montenegro and served as the input NS ICZM. It consists of five chapters.

The first part of the document gives a short review of the basic issues dealing with the methodology of carrying capacity and its importance for the coast of Montenegro.

Besides general issues important for the carrying capacity, it is pointed out that for the correct assessment it is necessary to elaborate different development scenarios and to have in mind that the carrying capacity assessment should be adapted to specific circumstances in the observed areas.

The main issues that are important for the carrying capacity assessment of the Montenegrin coastal area are congestion of the narrow coastal zone with construction and economic activities and very strong orientation on bathing tourism, implying high pressure on beach areas. Important problem is also poor condition and insufficiency of communal infrastructure for future needs, especially sewage as a threat to sensitive environment in many parts of the coastline.

Other aspects noted as important for the carrying capacity are transport connections and planning issues.

The second part of the document contains the analysis of the previously marked main indicators for the carrying capacity by four main groups – physical-ecological, infrastructural, socio-demographic and those concerning economic and political issues. **Since the most critical element of the pressure on the coastal zone is physical capacity of the beach area, those indicators were analyzed in detail from many aspects.** That included typologies of beaches by their structure, purpose or type of users. Besides the beaches, within physical indicators special attention was dedicated to ecological vulnerability and the problem of excessive construction in the narrow coastal zones. Although this analysis was focused mainly on the pressure from the physical point of view, it included also a problem of harmonization of new construction with the landscape and local architecture.

The remaining three groups of indicators were analysed less detailed due to the fact that in

most cases they do not represent the serious problem to the overall carrying capacity of the coastal areas, or the problems can be solved with appropriate interventions.

**The third chapter of the document includes the assessment of tourism carrying capacity according to the importance of the main indicators.** It was concluded that according to the analysis of main indicators there are three groups of elements regarding their importance for the future tourism development:

- Elements representing the constant limitation, which cannot be seriously upgraded – these are physical capacity of beaches and building in the coastal zones;
- Infrastructure elements, which are temporarily often exceeding the carrying capacity, but can be improved with appropriate actions – the most difficult and costly is road infrastructure, but the water pipeline system, sewage and solid waste disposal also need serious investments; and
- Socio-demographic, socio-cultural and economic elements generally not exceeding the carrying capacity.

**Since the most important elements are physical capacity of beaches and overbuilding, their analysis only on the level of six municipalities was not satisfactory for the extraction of the zones exposed to the highest pressure, not to mention that municipality borders are often artificial and intersect homogenous natural zones. Therefore, the area of six coastal municipalities of Montenegro was further divided into 19 smaller territorial units, which do not represent administrative entities, but do represent homogenous units regarding overall and tourism development.**

On the basis of findings at the local level, the fourth chapter represents a short review of possible development scenarios for the whole Montenegrin coastal area according to the analysed situation and trends. Besides the

undesirable scenario of the continuation of existing trends causing occupation of the most attractive unconstructed coastal areas predominantly with unproductive secondary homes, there are three main scenarios: Intensive tourism development scenario; Conservation scenario; Sustainable tourism development.

The final chapter Recommendations for achieving the sustainable development scenario includes six overall recommendations for the whole Montenegrin coastal area and some special recommendations for the each of six

municipalities. Six general recommendations include: ecological behaviour in the domain of communal infrastructure upgrading of road transport connections; removal of unnecessary facilities from the coastal zone; physical interventions in the beach area; diversified beach usage fee; monitoring of sustainable development.

Hence Tourism Carrying Capacity Assessment has entirely fulfilled the objectives and plan for implementation of activities that were determined in the Inception Report.

**Table 4: Support to SPSPCZ MNE and ICZM Strategy/Plan development: Work Plan and Timetable**

No. Phase/action	Output(s)	Realization
<b>1. Detailed formulation</b>		
1.1 Preparation of Technical Specification	Draft Technical Specification	March 2012
1.2 Presentation of TS at the Inception Conference	Inception Conference Report	March 2012
1.3 Final version of the TS	Technical Specification	April 2012
<b>2. Implementation</b>		
2.1 Identification of the existing sources of information and data gaps; data gathering	Compilation of existing data	April 2012
Built-up Assessment	Criteria and Guidelines for determining land uses, Indicators of the sustainability of the spatial development, trends in space consumption	February 2012- February 2014
2.2 Preparation of baselines studies:	Baseline studies	
<ul style="list-style-type: none"> <li>▪ Biodiversity and nature protection</li> <li>▪ Hydrology, hydro-geology and water quality</li> <li>▪ Risks</li> <li>▪ Selected socio-economic issues</li> </ul>		October 2012
2.3 Preparation of suitability assessment (attractiveness, vulnerability and suitability modelling; interpretation of models)	Models and interpretative report	September 2012
2.4 Application of Carrying Capacity Assessment (CCA)	Guidelines on determination of Carrying Capacity and CCA (to support SPSPCZ MNE and ICZM development)	August 2012
2.5 Provision of support for beach management system	Recommendations on beach management	April 2013
2.6 Contribution to GIS database	Mapped results of analytical work (baseline studies, V&S assessment, carrying capacity, etc.); GIS database	Throughout the project

## B 1.5 Recommendations to strengthen the beach management system in Montenegro

Inception Report defined the obligation to provide recommendations to strengthen the beach management system. The key objective of this activity was to contribute to the improvement of the coastal zone management system through strengthening the management regime of beaches and bathing places. A number of actions were planned to be implemented under this activity with the aim to get following recommendations and assessments which are related to:

- protection of beaches and coastal zone;
- categorisation and equipping of bathing places;
- determination of capacities by categories;
- establishment of categories in relation to the needs of the hinterland,

as the activity' outcomes.

Budget of the project envisaged the Public Enterprise of Coastal Zone Management of Montenegro to be responsible for funding this activity. Although Public Enterprise confirmed commitment, due to lack of budgetary means activity was not realized. However some aspects such as analyse of the status of beaches and carrying capacity of beaches were realized in the scope of the Tourism Carrying Capacity Assessment.

## B 2 Integrated Coastal Zone Management framework setup

Integrated Coastal Zone Management framework setup was composed of:

2.1 Proposal of the ICZM institutional-legislative framework setup in the coastal zone of Montenegro;

2.2 Recommendations for the selected ICZM measures, including the coastal setback elaboration with rules of its implementation/adaptation;

2.3 Facilitating the implementation of the ICZM Protocol principles in the final SPSPCZ MNE and SEA formulation.

2.4 Development of the NS ICZM with Action Plan

The Inception Report has defined preparation of the ICZM Plan to be the main activity of the CAMP Montenegro and a vehicle for putting into practice integrated approaches and new institutional/co-ordination mechanisms. It has stipulated that National Strategy for the ICZM will be developed in parallel with the Integrated Coastal Zone Management Plan.

The National ICZM Strategy and Plan will define a set of long-term objectives, within a 20-year time frame. The ICZM Plan will be a supporting roadmap to achieve the Strategy by defining the short-term actions to deliver the Strategy over a predetermined time period, i.e. 3-6 years.

The most important directions for development of the ICZM Plan and NS ICZM given in the Inception report are listed in text below.

The (possible) contents of the National ICZM Strategy with the ICZM Plan was defined as follows:

- Definition of the **Vision**;
- **Identification of the Analysis and Objectives:** A brief analysis of the current state of the coastal zone, root causes of major problems, risks and potential future scenarios. The national objectives for sustainable development of the coastal zone reflecting environmental, economic and social priorities. Identification of the key indicators to measure the success addressing these priorities;
- **Determination of the priorities for the Coastal Zone:** Set out the national priorities



and links to other relevant strategies including spatial planning, environmental, natural risks in particular climate change, economic development, transport, etc.;

- **Identify specific Ecosystems and Themes:** Define the specific coastal ecosystems requiring management, in particular estuaries and wetlands, by taking into account their environmental, economic and social function;
- Identification of the Governance Structures and Participation;
- Identify means of Implementation;
- **Action Plan:** a supporting roadmap to achieve the Strategy – an ICZM Plan to deliver the Strategy over a predetermined time period, i.e. 3-6 years. The ICZM Plans are multi-sector development plans which do not replace but augment the overall national development plans and sector specific development plans. They are the central key elements in the establishing of a sustainable ICZM;
- Monitoring and Evaluation process.

In accordance with the analyses and objectives that will be defined in the NS ICZM, the priority themes and area of action will be further elaborated in the ICZM Plan. This will be achieved by defining the measures, timeframe, responsibilities for implementation, indicators, means for implementation for any themes and area of action that is assessed as the priority for the ICZM Plan. The analyses and recommendation to come out from the baseline studies will serve as a platform in making the prioritisation of the themes and priority areas, as well as for defining a set of measures that are necessary to be realised in order to enable implementation of the priority actions.

Following the identification of the means for the NS ICZM Implementation, the ICZM Plan will define the measures that are necessary to be realised in order to put into force the institutional and legal set up for the ICZM system. The core elements of the ICZM Plan will

be based on the outcomes of the CAMP Montenegro.

The ICZM Plan will provide clear targets over time, policy development strategies, monitoring schemes and evaluation mechanisms making use of the national framework of ICZM stakeholders. The ICZM Plan will also provide the recommendations aimed at harmonisation of the SPSPCZ MNE, as the key spatial planning document, as well as the relevant sectoral strategies, with the ICZM Protocol principles.

In developing the ICZM Plan, special attention will be attached to creating the participatory process so as to enable iterative participation of relevant coastal stakeholders.

**Objectives** of the activity related to the Integrated Coastal Zone Management framework setup were defined as follows:

- articulate an agreed clear national vision for the sustainable development of the coastal zone;
- establish through the governance the integration and harmonisation of multiple interests in the coastal zone;
- identify both the priorities and the means to achieve the sustainable development of the coastal zone.

**Actions** to be implemented were:

- define the Contents of the NS ICZM;
- organise a consultative and participatory process of relevant coastal stakeholders;
- define the contents and structure of the ICZM Plan following the objectives and priority areas defined in the NS ICZM, including the identification of the Specific Ecosystems and Themes;
- define the measures for the ICZM Plan/Strategy implementation that also could be used for the SPSPCZ MNE implementation;
- follow the process of the SPSPCZ MNE preparation and provide support in order to

facilitate the implementation of ICZM principles in the final formulation of SPSPCZ MNE and the related SEA;

- propose the institutional and legislative set up to facilitate the implementation of the ICZM Protocol principles, including their integration in the final SPSPCZ MNE formulation;
- integrate the recommendations of SEA for the ICZM Plan into the ICZM Plan;
- formal adoption and approval of the ICZM Plan.

**Outputs** of this activity were defined as follows:

- National Strategy for the Coastal Zone Management;
- Integrated Coastal Zone Management Plan.

Three main sub-activities were connected to this core activity:

- B 2.1: ICZM institutional-legislative framework setup;
- B 2.2: Recommendations for selected ICZM measures, including the coastal setback elaboration with rules of its implementation/adaptation;
- B 2.3: Facilitating implementation of the ICZM Protocol principles in the SPSPCZ MNE and SEA.

**B 2.1: ICZM institutional-legislative framework setup** – the **goal** of this CAMP activity was defined as to contribute towards the establishment of the appropriate institutional and legal structure for integrated management of the coast. The activity has to be in line with Articles 7 and 14 of the ICZM Protocol.

**Actions** that were defined for implementation under this activity included the preparation and/or provision of:

- an analysis of the current legal framework as well as institutional roles and responsibilities

and identification of obstacles to effective management of the coastal zone;

- a model for institutional structure for the coastal zone management (possibly through further elaboration and improvement of co-ordination mechanisms, possibly through the establishment of new and/or restructuring of existing institutions) with a view to the ICZM Protocol requirements and based on examples of good practice in integrated management of natural resources;
- a proposal on institutional development needs for integrated management;
- needs and support in making the proposed institutional structure operational, including the identification of necessary changes in respective laws and regulations;

It was defined that the main **outputs** of this activity has to include a proposal of an agreed model of institutional structure for integrated coastal zone management with defined responsibilities and financial resources, and identified further institutional development needs.

**B 2.2: Recommendations for selected ICZM measures, including the coastal setback elaboration with rules of its implementation/adaptation** – although it was

clear that some of the instruments for spatial planning practices in the coastal area will be elaborated in the SPSPCZ MNE, it was planned to elaborate some of ICZM instruments in NS ICZM, as a form of implementation measures complementing the SPSPCZ MNE, in view of the ICZM principles.

This activity put more emphasize on the instruments connected to the application of Article 8 of the ICZM Protocol, selected socio-economic measures and spatial planning assumptions related to the implementation of the green entrepreneurship concept, as well as monitoring and evaluation instruments.

Related to the action B.2.2 the Inception report defined key **actions** as follows:

- assessment of the narrower coastal strip relevant for the implementation of Article 8 of the ICZM Protocol;
- definition of criteria for the coastal setback and their presentation on selected locations;
- proposal of general criteria and measures for the rehabilitation of devastated zones;
- elaboration of key actions, including spatial planning prerequisites, for the promotion of a sustainable rural development in the coastal area, primarily in the tourism and agriculture sectors;
- proposal of instruments for the monitoring and evaluation of the intended outcomes.

Expected **outcomes** were defined as follows:

- elaborated measures related to the implementation of Article 8 of the ICZM Protocol, primarily in connection with the coastal setback and general criteria for the rehabilitation of devastated zones (as part of the ICZM Plan);
- appropriate graphical representation of selected locations of the coastal setback;
- elaborated analyses and measures for the promotion of sustainable local initiatives (green entrepreneurship) in the coastal area (to be integrated in the ICZM Plan);
- proposal of indicators for the monitoring of state and trends in space and/or sector, indications for the definition and monitoring of success of public (coastal) policies, plans and programmes.

**B 2.3: Facilitating implementation of the ICZM Protocol principles in the SPSPCZ MNE and SEA** – inception report defined the obligation to provide harmonisation of the two plans – SPSPCZ MNE and ICZM under this CAMP activity in order to ensure that the ICZM Protocol concepts and tools such as the coastal vulnerability, attractiveness and suitability

modelling, the set-back zone, the ecosystem approach and the use of the carrying capacity assessment concept in the planning are applied in the SPSPCZ MNE development.

The goal of this activity was to provide technical support in the process of the SPSPCZ MNE and SEA preparations in a way to ensure the mainstreaming of the ICZM principles in the spatial planning system of Montenegro.

It required implementation of the following **actions**:

- follow the process of the SPSPCZ MNE preparation and provide necessary comments and technical assistance related to integration of the ICZM principles;
- analyse results of the baseline studies in order to ensure their practical application in the process of defining and justifying the planning measures and solution of the SPSPCZ MNE;
- provide a methodological input and determine the contents of SEA for the ICZM Plan;
- provide hands-on experience in SEA development;
- undertake SEA, in synergy with the SEA process for the SPSPCZ MNE.

Expected **outputs** from this activity are:

- specific inputs/comments on the SPSPCZ MNE, related to the ICZM principles;
- SEA on the ICZM Plan, complementary to the SPSPCZ MNE SEA;
- methodological inputs and training materials on SEA.

### **CAMP response** **Preparation of the NS ICZM**

**Outputs of the activity B2, following the structure as they were defined in the Inception report, are presented in Table 6** at the end of this section.

### ***The process and method of work***

**Drafting of the NS ICZM was supported through the Coastal Area Management Program for Montenegro (CAMP MNE)** as a segment of realization of the Agreement between the Government of Montenegro and the Mediterranean Action Plan of the UN Environment Program (UNEP/MAP), and as a part of the implementation of the Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (GEF MedPartnership). The process was supervised, from political angle and expertise, by Advisory Body and Steering Committee for the CAMP Montenegro and NS ICZM.

Parallel to the activities focused on the finalization of the results for the CAMP project, their calibration and validation for their use in drafting of the CASP and NS ICZM, Marina Marković, PAP/RAC Programme Officer and Jelena Knežević, CAMP Project Coordinator, developed a concept for the process of the NS IUOP drafting and a template for the content of the NS ICZM.

The first step in developing the NS ICZM in compliance with the blueprint set forth in the Inception Report was made through drafting of the **Position Paper for National Strategy on Integrated Coastal Zone Management** with recommendation of priorities. The drafting of this document set off in October 2013, and the first draft was produced in January 2013. National consultant, Marina Marković was hired for that as her credentials include authoring the CAMP Feasibility Study previously. In the course of drafting the document, a considerable documented basis was compiled in compliance with the PAP/RAC guidelines on the development of the NS ICZM and the results of CAMP Montenegro.

Following that, the first draft was the subject of consultation and fine-tuning done by the CAMP

team and this led to the adoption of the final draft of the document in May 2013.

This document provides:

- The framework for preparation of the NS ICZM;
- The Analysis of the existing policies relevant for the coastal zone management, including identification of the key documents and responsibilities, effectiveness of existing policies in attaining the goals of integrated management and existing institutions;
- The main gaps and needs for coastal zone management;
- The position of the NS ICZM compared to other plans and programmes, including the purpose and goal of the NS ICZM, responsibilities and management and coordination mechanisms and relations between NS ICZM and other plans and programmes;
- Priorities of the NS ICZM based on recognition of the priority problems in the coastal zone;
- In compliance with above listed elements, the concluding recommendations and proposal of the outline for NS ICZM preparation.

The outline for NS ICZM preparation proposed the content of this document as follows:

1. Statement of endorsement
2. Introduction
  - 2.1 Justification and context (national and international)
  - 2.2 Territorial scope (on land and sea)
  - 2.3 Time frame of the Strategy and mechanisms for its updating
3. Coastal zone management
  - 3.1 Management structure for the coastal zone
  - 3.2 Co-ordination mechanisms
  - 3.3 Public participation mechanisms
4. Vision of the sustainable development of the coastal zone

5. Analysis of existing conditions
  - 5.1 Existing framework for coastal zone management, relevant plans and projects
  - 5.2 Current state of the coastal zone (environmental quality, special natural and landscape values, economic activities, population, built environment and cultural values)
  - 5.3 Identification of the main problems and underlying causes to unsustainable trends
6. Priorities
  - 6.1 Identification (with indication of reasons) of priority themes/ issues
  - 6.2 Elaboration of priority issues
7. Goals and indicators
  - 7.1 General goal of integrated coastal zone management (derived from vision)
  - 7.2 Goals linked to priorities (with indicators to monitor progress with their realisation)
8. Means of implementation / measures
  - 8.1 Recommendations for adoption of new and amendment / revision of the existing policies
  - 8.2 Recommendations for changes and amendments of the legal framework
  - 8.3 Recommendations for spatial planning policy
  - 8.4 Partnerships
  - 8.5 Communication and awareness raising
9. Monitoring and evaluation
10. ICZM Plan (zoning?)
11. Strategy Action plan (measures and activities that need to be implemented during first 3 – 6 years of implementation, with financing plan, deadlines and responsibilities)
12. Annexes (maps, data, information on the strategic environmental assessment process)

By taking into account Position Paper, the results of CAMP Montenegro, the integration of the results of the CAMP baseline analysis into the NS ICZM and ICZM Plan, as well as their distribution among the NS ICZM, ICZM Plan and Action Plan, have been discussed in period May-June 2013

and agreed on by CAMP team. That proposal was presented later on at the 15th Meeting of MCSD, held on 10-12th of June 2013.

It was agreed that NS ICZM would be based on the following building blocks: description/ characterisation (environmental, land use with socio-economic and governance), pressures with root causes, strategic priorities and measures. The platform for development of such a defined NS ICZM building blocks was agreed to be based on the outcomes and results of CAMP outputs.

By making the sectoral characterization of the results of the key tasks that were realized in developing the quoted building blocks of the NS ICZM, the following ICZM Plan components were suggested to be determined:

- The proposal of the most important coastal ecosystems, conflict zones with the proposal for reduction of the buildable areas;
- Extremely fragile coastal ecosystems with the proposal of expansion of the coastal set-back zone;
- Proposal of other vulnerable areas;
- Proposal of the open areas in line with Article 8.3;
- Proposal of the coastal set back zone;
- Proposal of the development opportunities.

Based on such a defined approach there was decision on the components of the ICZM Plan and NSICZM'S Action Plan that were needed to be defined. The process was planned as to include recognition of the problems and related responses, as well as their elaboration through definition of the:

- thematic issues of ICZM and systematic pressures;
- strategic priorities;
- measures and instruments for spatial planning concept, land, economic and other relevant policies, institutional mechanisms;

- actions, dynamic, financial assessment and authorities responsible for their implementation;
- project portfolio as the element of the Action Plan in order to enable enforcement of the Action Plan at the implementation stage. Other tasks that may be defined by the CAMP management team depend on the progress of the process of development of the NS ICZM Strategy.

It was agreed that last implementation phase of CAMP should be mainly devoted to preparation of the NS ICZM with the ICZM plan. The concept for preparation of the NS ICZM was analyzed in a few iterations by the CAMP team. Apart from the discussion on concept and plan of open spaces, the focus of the meeting of the CAMP expert team that was held on 23–25<sup>th</sup> of October 2013 at PAP/RAC was the progress made in drafting the NS ICZM with ICZM plan and Action Plan. Considering the strategy's concept in compliance with the Position Paper, they have supplemented the proposed content of the strategy by defining the priority topics within the remit of the strategy, management plan and action plan. After the CAMP expert team meeting, Željka Škaričić, PAP/RAC director and Marina Marković, PAP/RAC Programme Officer had meeting with Jelena Knežević, CAMP Project Coordinator. They discussed the progress in program realization and considered models of support to efficient realization of the incoming phase that will dominantly focus on drafting of the NS ICZM. The most important conclusions were the following:

- Having in mind the extension of the program activities within the CAMP MNE, and with a view of making conditions to efficiently integrate results into the CASP it is necessary to plan extensions of realization of the CAMP MNE that would entail involvement of the CAMP coordinator, too;
- The dynamics implies the extension of the final stage of the project funded from the

MedPartnership which requires communication with the Secretariat of the MedPartnership;

- In the context of what was quoted above, it is necessary to speed up the activities for as much as possible so as to have the draft of the NS ICZM with Management plan and Action plan developed by the end of summer 2014 (July-September).

Later on the CAMP expert team organized Workshop on 25-27<sup>th</sup> of November 2013 with the aim to support CAMP outcomes integration into CASP. It was also the opportunity to organize consultations with Mr. Branimir Gvozdenović, Minister of Sustainable Development and Tourism, with the aim to consult on the process that would be aim at getting the political approval of the results that are achieved in the framework of CAMP Montenegro. On that occasion it was decided to prepare **Information on the results of implementation of the Coastal Area Management Programme Montenegro (CAMP MNE) in the context of developing the Special Purpose Spatial Plan for Coastal Area of Montenegro (SPSP CA MNE-CASP) and the National Strategy for Integrated Coastal Zone Management of Montenegro (NS ICZM MNE)** to be considered by the Government of Montenegro.

The Government of Montenegro considered that document at its session on 18<sup>th</sup> of December 2013 and made a decree that took stock of the realization of the Coastal Area Management Programme for Montenegro (CAMP MNE) in the context of drafting SPSP CZ MNE (or CASP) and the National Strategy for Integrated Coastal Zone Management (NS ICZM) as a part of the realisation of the Agreement pertaining to the realization of the Coastal Area Management Plan for Montenegro (CAMP MNE). The following recommendations given on that occasion important for the NS ICZM can be singled out:

- Starting from the SPSPCZ MNE which needs to be prepared in accordance with recommendations and guidelines mentioned herein, identification of problems and causes which led to unsustainable trends in the development of the coastal zone, the NS ICZM will define strategic priorities of integral development and management of the coastal zone, which will be further elaborated through objectives and measures for their implementation.
- Among priority problems and deficiencies, the following will be addressed as well: insufficient level of integration of environment protection goals in the field of sectoral policy (economic, social, cultural and spatial planning policies), unsustainable trends in planning and rational use of space of the coastal zone, non-realized opportunities for making the economy of the coastal zone green, lack of monitoring mechanism (information base), inadequate institutional and legal framework for facilitating the use of instruments for integral management of the coastal zone, unconstructed capacities and the need for raising awareness.
- The Integrated Coastal Zone Management Plan will build on the measures defined by the NS ICZM by elaborating them operationally through spatial definition of their implementation and it will operationalize them further through the Action Plan to be prepared in a form of priority project portfolio.
- Based on the conducted analysis of the condition and process of transformation of the coastal zone, a special place among the ICZM instruments will be taken by instruments whose implementation is required by the Protocol on Integrated Coastal Zone Management: controlling urbanization in accordance with vulnerability, suitability and attractiveness of the coastal zone, implementation of the tourism carrying

capacity, distance from the coast and protection of open/rural areas. In this context, instruments of land and taxation policy will be considered as well at operational level and at the level of simulated implementation.

**In accordance with the above listed conclusions of the Government of Montenegro, in 2014 there was realization of a phase of CAMP Montenegro which was related to preparation of the NS ICZM, enabling simultaneous coordination with a parallel process of SPSPCZ MNE.**

In the scope of the Workshop on harmonization of CASP and local spatial plans for coastal municipalities that was organized on 12–13<sup>th</sup> of February 2014 a separate working meeting of the team responsible for development of the NS ICZM (composed of Marina Marković Gojko Berlengi, Aleš Mlakar, Marina Marković and Jelena Knežević) was organized. The main topics for discussion were related to the evaluation of the progress in development of the NS ICZM and defining its structure, methodology for its development and priority thematic areas to be treated.

The starting point for the discussion was the basic concept of the proposal of the outline and content of the NS ICZM, and its relationship with ICZM Plan and Action Plan that was previously proposed by Marina Marković and Jelena Knežević.

After intensive consultations working team has concluded to continue the process following recommendations as follows:

1. It is acceptable to further elaborate six thematic areas that have been proposed in the concept of NS ICZM development.
2. The **introductory chapter** of the NS ICZM will be created:
  - by taking into account the initial assessments of the NS ICZM towards

other strategic documents that are given in the Position Paper; it is necessary to prepare a causal analysis (which does not include a detailed analysis of the DPSIR) of the objectives of policy documents in relation to the requirements of the Protocol on ICZM. The related matrix was prepared later. It is similar to the one that is used to analyse the institutional and legislative framework.

- by applying detailed DPSIR analysis that will be conducted in the context of evaluating the priority issues / problems that will be processed within the ICZM plan.

3. The second chapter "assessment of the present status of the coastal area" will be based on presentation of the current trends in the coastal area of Montenegro and the selection of key disadvantages/gaps and needs to be considered in the scope of NS ICZM development. The gaps and needs should be organized into two groups:

- The first one related to the problems in the spatial planning of the coastal area, vulnerability-natural base and existing problems of the mono-economic concept and needs in the context of its diversification;
- The second one related to the management, governance, the public participation, awareness raising and capacity building.

The concept of the simplified SWOT analyse will be applied in identification of key disadvantages and needs. The extended list of the priorities for NS ICZM will be determined in this chapter.

4. In the third chapter **key disadvantages and needs for development of the NS ICZM** will be determined. This list of **key disadvantages and needs** will be formulated by the evaluation and making the prioritization of the wider list of the key disadvantages and

needs that are identified in the chapter 2. The strategic priorities for NS ICZM will be than recognized. The selected key disadvantages and needs will be associated to them.

5. In the fourth chapter **the vision of the NS ICZM** will be defined.

6. The fifth chapter will define **the strategic priorities of the NS ICZM of Montenegro**.

This is the crucial chapter of the NS ICZM and a basis for development of the ICZM Plan and Action Plan. The shorter list of the most important strategic priorities will be selected from the broader list that is defined in chapter 3. They will be selected considering their importance or because of the urgency of integrated approach to be applied in resolving the present problems. The strategic priorities will be defined in a manner to contain the general objectives that are needed for their achievement and will be classified in 2 groups. The first one presents the governance group, while the second one will corresponds with the selection of the priority themes for NS ICZM as they are defined in the Position Paper such as:

- integration of the environment into sectoral policies (economic activities, spatial planning, cultural and social issues, etc.),
- rationale planning and use of space,
- adequate information basis by emphasizing spatial planning data set, environmental protection and coastal processes,
- diversification of the costal economy,
- coordination of the public policies,
- capacity building,
- awareness raising on ICZM.

The strategic priorities will be defined in a form of the general objectives. Also the tasks of relevance for realization of the strategic priorities will be than further elaborated.

Later on a number of consultations have been launched in order to check the



proposed concept for development of the NS ICZM. It was decided to integrate ICZM Plan with NS ICZM. Therefore the chapter five will be also the basic chapter of the ICZM Plan. The specific goals will be defined starting from the 2 groups of the strategic priorities by applying the DPSIR analyse.

The indicators and parameters of relevance for the monitoring will be determined.

7. The sixth chapter will define the **measures for realization of the specific goals**. This chapter will contain the cartographic presentation of relevance for realization of the selected specific goals and will be based on the management of the open area by selecting examples of concrete solutions. It will be strongly interlinked with determination of the construction areas in the CASP.
8. A few models for **Action Plan** development were proposed using as the examples a variety of international experiences in creating ICZM plans over the world. It was decided to combine 3 different modalities that were proposed in the basic proposal of the content of the Action Plan: definition of the actions related to the specific goals by taking care about balancing of the environmental, space and economic set of goals determined in the chapter 5; determination of the projects of relevance for realization of the actions and cartographic presentation of the spatial management along the coast. The actions will be primarily presented in a form of matrix which contain the elements as follows:
  - What is the action and what changes can be expected?
  - Who is responsible for realization of the actions?
  - When the action will be realized?
  - What resources are needed for realization of the action?

- How monitoring will be organized and what indicators will be applied?

The effort will be also done as to provide cartographic presentation of the evaluated project activities along the coast.

Following above presented conclusions agreed among CAMP leading expert team members, in period January –June 2014 there has been a significant progress in the process of drafting the National Strategy for Integrated Coastal Zone Management (NS ICZM). This progress is based on systematic upgrading of the results achieved by the team of experts in developing segments of the NS ICZM and their further formation through mechanisms applied in conducting iterative participatory process. Among the most important outcomes of the expert team there are those related to realization of:

- the Analysis of the Institutional and Legislative Framework prepared against the Requirements of the Protocol on ICZM;
- Assessment of the current situation on the basis of comprehensive analysis completed within CAMP MNE and sectoral analyses (in infrastructure, tourism and agriculture) considered in relation to the requirements of the Protocol on ICZM;
- Analysis of the strategic framework that is relevant to ICZM Montenegro assessing the enforcement of documents/policies in relation to the objectives relevant to the Protocol on ICZM policies and plans;
- Development of the expert inputs for consultations within participatory process.

In relation to the methodology applied it is important to note that the expert analysis identified the main pressures on the elements of the natural and constructed environments, their drivers, as well as the impacts that resulted from these pressures. In this way, the condition of natural and cultural heritage, the environment and landscape was assessed, in addition to the most important resources in coastal areas. Key

findings of the analysis of the represented drivers, pressures, state and impacts were the subject of consultation with relevant stakeholders in the participatory process (representatives of public administration at national and local levels, professional institutions, NGOs, the business sector. Direct consultation with stakeholders in workshops conducted in the framework of the consultation process and using a previously developed questionnaire, depending on the theme of the workshop, the proposal of the expert team was assessed and a broad list of issues that were relevant to the natural and built environment of the coast was established. Problem analysis was expanded to include the key economic activities, natural hazards, social capital and the existing management mechanisms and institutions. Problems were then further analysed through the work of a professional team and consultative process to determine cause-and-effect relationships, and address the causes of problems - from direct to the deepest causes or triggers of adverse processes and phenomena. Further on the extensive list of identified problems and causes was prioritized, with a special focus on the problems in space and coastal zone management of Montenegro.

As part of the assessment of the current situation, through systematization of problems and causes, and evaluation of the degree to which certain groups of problems and causes were hampering the achievement of the objectives of the ICZM Protocol and poor prospects for long-term sustainable development of coastal areas, the key gaps and needs were identified. At the same time in relation to the objectives of the ICZM Protocol, the gaps and needs were primarily examined in relation to the following requirements: protection of natural and cultural heritage (including the application of ecosystem approaches), regulation of coastal activities (through the introduction of instruments for sustainable use of coastal space), risk

management related to climate change and natural hazards, prevention and remediation of damage to the environment, access to information and scientifically based grounds for decision making.

The prepared Draft Assessment of the situation was the subject of consultation of the CAMP team held in the period 1-3 July 2014 at the PAP/RAC in Split. The meeting was attended by Marina Marković, a national consultant, Gojko Berlengi, an expert, Ales Mlakar, an expert, Marina Marković, program officer at the PAP/RAC and Jelena Knežević, CAMP Project Coordinator.

The results of the problems and causes analysis were analysed in detail and the problems and causes were systemized in addition to isolated key drawbacks, a proposal of strategic priorities of the NS ICZM and specific objectives was made for each of the proposed strategic priorities.

The Final Draft of the key shortcomings was established according to the following structure:

1. Protection of natural and cultural values;
2. Sustainable use of coastal resources :
  - Regulation of coastal activities;
  - The prevention and reduction of damage from natural hazards ;
3. Monitoring of coastal processes
4. Establishing integrative management mechanisms

The expert team meeting created draft strategic priorities of the NS ICZM MNE which were harmonized by the expert team members in multiple iterations in July and August. The Content of the first Draft of the NS ICZM which was prepared in late August established the following structure of strategic priorities with specific objectives:

1. Effective protection of nature, landscape and cultural assets
  - 1.1 Improving the conditions for the application of approaches and

- instruments for the protection of valuable ecosystems, landscape and cultural assets
- 1.2 Establishing an effective system of protected and valuable areas
  2. Sustainable use of land and sea space
    - 2.1 Improving the legal framework and strengthening the capacity of the physical planning system, particularly in public administration
    - 2.2 Ensuring the necessary level (including details) of sector base maps for spatial planning
    - 2.3 Improving the implementation of the strategic impact assessment
    - 2.4 Rationalizing the use of space
    - 2.5 Application of the coastal detachment
    - 2.6 Assuring the quality of the built environment
    - 2.7 Establishing a basis for spatial planning of the sea
  3. Infrastructure development for the prevention and remediation of pollution
    - 3.1 Mitigation of consequences of illegal construction
    - 3.2 Improvement of environmental status of the marine ecosystem and improving infrastructural networks (wastewater, water supply)
    - 3.3 Improvement of environment by improving the system for reuse and recycling of waste and remediation of priority landfills and contaminated sites
    - 3.4 Harmonization of plans for the development of new infrastructure and the spatial constraints relating to natural hazards
    - 3.5 Reducing the impact of pollution from vessels by improving port infrastructure
  4. Diversified coastal economy development
    - 4.1 Development of sustainable tourism offer in addition to the preservation and improvement of the attractiveness of coastal areas
    - 4.2 Encourage Rural Development

- 4.3 Green and blue growth: support to small and medium-sized enterprises and innovation
5. Strengthening human resources and social cohesion
  - 5.1 Organizational restructuring
  - 5.2 Development of public administration institutions
  - 5.3 Upgrading the system for tracking and monitoring of coastal processes
6. Improving Management
  - 6.1 Raising awareness of the need for diversification of the coastal economy, preservation of coastal ecosystems and specific cultural and landscape values
  - 6.2 Education and training
  - 6.3 Strengthening the links between social actors and improving cooperation by encouraging public participation in the decision-making process

Following the suggestions made by expert Ivica Trumbic, who was responsible for supervising the NS ICZM drafting process, the CAMP expert team thoroughly reviewed the proposal of the concept of the ICZM Plan content as an integral part and reviewed the need to draft a separate part of the document as a management plan in a situation when the CAMP results significantly influenced the planning concept that was developed as optimal under the *Spatial Plan for Special Purpose Coastal Zone of Montenegro*.

Particularly, it cannot be expected that any planning document, even CASP with specific planning solutions that have to be proposed, may carry out in-depth analysis of the whole system of which it is only an instrument. The Spatial Plan defines the desired image of the area over a time horizon, and the process is elaborated by the strategy and management plan that generate preconditions for this image to be properly defined and eventually implemented. Therefore the SPSPCZ MNE is primarily the spatial plan of an extremely valuable part of the territory of Montenegro, allocating the most valuable resources to be

used for economic and other activities, which is already challenging enough.

The fact that Montenegro will get a modern regional spatial plan that realistically perceives and evaluates current problems and offers concrete solutions for the future development of the coastal area has a substantial influence on the content of the ICZM Plan as a part of the NS ICZM MNE.

Thus, the existence of the CASP which was significantly contributed by the CAMP activities, makes it possible to relieve the ICZM Plan from the need to address some specific planning solutions and focus on important issues and environment prerequisites for effective preparation and implementation of spatial plans.

In addition, the task of the ICZM plan is to further clarify the use of innovative analytical and planning tools as well as the contribution of the CAMP activities as the additional value compared to the current practice in the process of CASP drafting.

In this context the expert team considered the following possible contents of the ICZM Plan:

1. Sustainability Analysis of the coastal area spatial development status in Montenegro
  - 1.1 Quantitative space use and rational use of urbanized land
  - 1.2 Conflicts between the processes of urbanization and space vulnerability
  - 1.3 The equipment and quality of built environment
2. Analysis of the coastal area transformation process
3. Identifying essential resources for the diversified development of coastal areas
4. Spatial and development planning in terms of sustainable urban development
5. Sustainability frameworks in development scenarios

6. Preconditions for defining land use regime and the use of space
7. Planning marine areas
8. The concept of spatial development of the coastal area of Montenegro
9. Instruments for CASP implementation
10. Mechanisms for monitoring and evaluating the implementation of CASP.

Given the above the CAMP expert team concluded that as part of the NS ICZM, instead of a separate management plan, a special section had to be drafted to deal with the application of management mechanisms in selected areas of land and sea in relation to the results of an analysis of the present status of the coastal area in Montenegro and its transformation. Special attention would be paid to sustainable spatial development of open areas and setting up a methodological basis for the introduction of marine spatial planning which is currently missing. Elaboration of application of the selected management mechanisms would be provided through a set of measures and instructions for their implementation, in addition to maps of the selected locations of the land and sea area.

This approach was further discussed with decision makers at MSDT on 25 July 2014 in Kucka Korita, in terms of drafting the NS ICZM and its relationship with the CASP.

In addition to the Draft of NS ICZM (first five chapters), in August 2014, progress was made in drafting the NS ICZM Action Plan. A proposal of measures and guidelines for their implementation was prepared, including indicators and target values, and responsible authorities for their implementation for specific targets in the following priority areas:

- Effective protection of nature, landscape and cultural assets,
- Development of infrastructure for pollution prevention and remediation,

- Development of diversified coastal economy.

The work on drafting the chapters of the Strategy has continued along with increased work on the finalization of the Action plan in period August-December 2014. In the course of September, expert consultations were held to discuss contents and format of the Action plan. The set of measures and sub-measures which further defines strategic goals as thematic areas of the Strategy was the subject matter discussed at consultations and discussions among CAMP's team of experts.

The workshop for CAMP's team of experts was organized in the period 15-17<sup>th</sup> of October 2015. On that occasion all chapters of the Strategy were analysed in detail, amendments and fine-tunings made and tasks in the team divided towards finalizing the draft of the NS ICZM. That was the occasion to propose further sets of measures and sub-measures of the Action plan and harmonize them further with strategic goals, so as to ensure they are consistent. The proposal for key indicators for monitoring of the implementation of the NS ICZM was considered and amended.

The proposal for priority actions by 2020 was discussed and changes and amendments made on the draft developed in the period July-August.

In compliance with defined tasks and duties, Jelena Knežević, CAMP Project coordinator embarked on making the final draft of the NS ICZM, while the experts, Gojko Berlenji and Aleš Mlakar respectively took to drafting Chapter 6 that defined strategic guidelines for improving spatial planning system and for drafting of the SPSPCZ MNE, actually developing priority set of actions by 2020. All quoted activities have been evaluated by Marina Marković, Programme officer in PAP/RAC.

The draft NS ICZM was discussed at the third meeting of the CAMP Steering Committee held on 19<sup>th</sup> of November 2014, as reported above under project structure. At the meeting the draft

document got support from the Committee. NS ICZM draft was finalized following the remarks given prior to its submission to the Government of Montenegro for consideration and approval.

Parallel with the work on the draft for its consideration by the Committee, the document was discussed at inter-sectoral consultations. The document was submitted to all relevant and interested parties, such as: Ministry of Foreign Affairs and European Integrations; Ministry of Finance; Ministry of Agriculture and Rural Development; Ministry of Economy; Ministry of Transport and Maritime Affairs; Ministry of Culture; General Directorate for Spatial Planning, Construction, Tourism and Environment of the Ministry of Sustainable Development; all local authorities in the coastal region; Public Enterprise for Coastal Zone Management; Environmental Protection Agency; Hydrometeorology Institute of Montenegro; Institute for Marine Biology; Directorate for Cultural Heritage; Maritime Safety Department; port masters; Statistics Bureau of Montenegro; and working groups set up by the National Council for Sustainable Development and Climate Changes. The remarks that were received in the process were proposals and guidelines for some corrective interventions regarding some statistical data, more detailed planning for some measures, adding some sub-measures (primarily concerning local needs, cultural heritage, fishery etc.). Cultural heritage was the topic of additional consultations as the NS ICZM was found to have fallen short of cultural heritage part, regarding inter alia its mapping. Modifications and new elements were integrated into the document to be prepared for its consideration by the Government of Montenegro.

Draft NS ICZM was prepared for its consideration at the meeting of the National Council for Sustainable Development and Climate Changes. Considering that the draft NS ICZM proposed that political level of coordination mechanism should be positioned within the National

Council, the draft NS ICZM with proposal for the coordination mechanism was put into the agenda for 27. Meeting of the National Council that was scheduled for 06<sup>th</sup> of December 2015. Later on, the meeting was rescheduled for 28<sup>th</sup> of January 2015. On that occasion the proposal was made to have the competencies of the National Council expanded at political level so as to make the Council an advisory body to the Government for the issues concerning implementation of policies on integrated coastal zone management. In this way, the National Council will be transformed into the National Council for sustainable development, climate changes and integrated management of coastal zone of Montenegro.

The draft NS ICZM was considered by the Government of Montenegro at its session held on 18<sup>th</sup> of December 2014.

At that session the Draft strategy was approved and the Ministry of Sustainable Development and Tourism was entrusted with the task to ensure the opinion of National Council for Sustainable Development and Climate Changes about the Draft strategy for integrated management of coastal zone, including also the proposed extension of their mandate from the aspect of its role as the advisory body for the implementation of the NS ICZM MNE. The timetable for public consultations has also been defined.

**The Government of Montenegro also entrusted the Ministry of Sustainable Development and Tourism with the task to submit to the Government of Montenegro the Proposal of the National Strategy for Integrated Coastal Zone Management of Montenegro once the public consultation process is over so that the Government can review and adopt it, together with the opinion of the National Council for Sustainable Development and Climate Changes and with the report from the public consultation.**

The public consultation program was established in compliance with Article 7 and Article 9 of the Decree on Procedure and Manner of Conducting Public Consultations in the Process of Drafting Laws.

The stakeholder consultation process started with releasing a public call and the draft NS ICZM on the internet page of the Ministry of Sustainable Development and Tourism and on the web-portal of the e-government on 29<sup>th</sup> of December 2014. The deadline for submission of initiatives, proposals, suggestions and comments in writing and in electronic form was 40 days as of the date of call announcement.

The stakeholder round table was organized in the premises of the Ministry of Sustainable Development and Tourism on 26<sup>th</sup> of January 2015.

**At its session on 9<sup>th</sup> of April 2015 the Government of Montenegro considered and adopted the Report from 27. session of the National Council for Sustainable Development and Climate Changes.** The Government approved of the comments and conclusions presented by the National Council and assigned their realization with the competent authorities and institutions. The Government also upheld the remarks about setting up a Coordinating mechanism for ICZM. In relation to that the Decision on the Amendment of the Decision on Establishing the National Council for Sustainable Development and Climate Changes was drafted and submitted together with the Draft National Strategy for Integrated Coastal Zone Management for its consideration and adoption.

Also, by virtue of the Rules on Internal Organization and Systematization, the Ministry of Sustainable Development and Tourism established the **Department for Sustainable Development and Integrated Management of Sea and Coastal Area** that got the task to give support to the National Council for Sustainable Development, Climate Change and Integrated

Coastal Management and Coordination of the Implementation of the National Strategy for Integrated Coastal Zone Management of Montenegro.

**At its session on 25<sup>th</sup> of June 2015, the Government adopted the National Strategy on ICZM.** The Government assigned the realization of measures and priority actions from the Action Plan of the National Strategy for Integrated Coastal Zone Management to the competent authorities, institutions and administrative bodies in compliance with their respective tasks set forth in this document. The Government issued its recommendation to the Association of Municipalities of Montenegro and to the municipalities in the coastal zone to take part in the realization of measures and priority actions set forth by the Action Plan for NS ICZM, as this document identified them as relevant subjects. Also, the Government made recommendation to the Faculty of Natural Sciences and Mathematics, Faculty for Biotechnical Research and the Institute for Marine Biology of the University of Montenegro, as well as to the Chamber of Economy, enterprises in the coastal zone, associations of small and middle size businesses, associations of farmers, farming cooperatives and clusters to take part in the realisation of measures and priority actions of the Action plan for NS ICZM. At the same time the Government made its recommendation to the civil sector and non-governmental organizations to take part in realization of the measures and priority plans from the Action plan of the NS ICZM.

Ministry of Sustainable Development and Tourism was vested with the task to coordinate the implementation of the National Strategy for Integrated Coastal Zone Management in Montenegro and to report to the Government about the progress made in the implementation of measures and priority actions set forth in the Action plan of the Strategy.

### *The NS ICZM's role and importance*

The structure and contents of the NS ICZM were drawn up following the need to provide a strategic framework for integration of sectors, harmonize development priorities, strives and interests vis-à-vis measures for the protection of coastal area.

The Strategy was made so as to give direction, support and to speed up sustainable development of the coastal area of Montenegro, thereby contributing to the implementation of the ICZM Protocol and enabling the alignment of the national framework for action with relevant EU policies.

Although the NS ICZM covers a wide array of issues, this document has no mandate to address all essential issues pertaining to the coastal area of Montenegro. The priority of the NS ICZM are those themes and complex priorities requiring an integral, multisector approach and coordinated harmonization of priorities. It gives a detailed elaboration of the themes that can be successfully tackled within sectoral policies.

However, some themes that are to be primarily addressed by sectoral policies (such as managing communal waste and wastewaters, for example) are such that they merit their place in this Strategy due to the fact that overall spatial, economic and social development of coastal area depends on the expediency and success with which they are addressed.

The NS ICZM will further improve the system of spatial development and encourage strengthening of coordination mechanisms, development of result-oriented managerial practices and introduction of systemic monitoring of the coastal processes. The system that is to be reinforced in that way is to contribute to the preservation of important ecological habitats and ecosystems of coastal areas, landscapes and cultural heritage, protection of narrow coastal belt from linear

urbanization and development of rural areas whereby essentially meeting priority goals of the ICZM Protocol. The added value of the NS ICZM will be to strengthen the basis for the implementation of marine area planning, too.

The application of the ICZM concept is flexible as it puts maximum emphasis on given state of play and existing managerial structures in the country and, starting from there, it proposes further improvements. One of the general ICZM principles is to maximally avoid making present managerial structures and processes ever more complex. It would be unreasonable to set off complex ICZM mechanisms for addressing the problems that could be successfully addressed within a given sector by engaging its internal capacities and instruments. The ICZM does not seek to upstage given structures and does not repeat sectoral strategies, plans and programs.

The goal of the ICZM is to indicate to interdependencies and possible synergies that sectoral strategies might make more effective and efficient and to launch strategic themes that are presently either neglected or they do not get appropriate importance.

This is why priority tasks and strategic goals of the NS ICZM are focused on those problems that need the following to be addressed: strategic and normative alignment of public policies and legislation and, related to that, defining strategic tasks through integral, multi-sectoral analysis and cooperation among sectors; formulating complex public policies requiring joint action or enable synergic effects; priority status, considering that their successful completion determines the overall economic and social development of coastal area; coordination mechanisms that can be employed for resolving inter-sectoral conflicts strategic (plans, programs) and operational (projects) level; improvement of spatial planning system towards becoming highly integrative sector that is to be the core of some future ICZM structure; implementation of the good governance

principle (good governance) particularly in terms of greater efficiency, effectiveness and transparency.

Strategy's temporal timeline is the period of 15 years, so that its strategic goals and measures are related to the period by 2030. Due to the importance of continuous alignment of the NS ICZM with the results made in the implementation and other strategic documents, priority actions for the implementation are relevant for that five year implementation period.

### *Structure of the NS ICZM*

The context in which the NS ICZM is prepared, its role and information on the preparatory process, as well as structure of the document itself are presented in chapter 1.

Assessment of the existing state of the coastal zone is provided in chapter 2 and it refers to natural and cultural heritage, coastal resources, natural and anthropogenic hazards, economy, and social development and governance. This chapter contains description for each of the mentioned areas, pointing out characteristics, positive trends and advantages of the coastal zone, as well as vulnerability of certain environmental and spatial segments, occurrences of excessive pollution and unsustainable use of resources, economic inefficiencies, governance weaknesses, etc.

Based on the assessment of the existing state, pressures and impacts, chapter 3 presents identified key problems, weaknesses and needs for integrated management related to protection of natural and cultural heritage, regulation of coastal activities and application of management instruments and mechanisms.

In chapter 4, vision of coastal zone development is formulated.

Systematisation of problems and gaps and their gravity/weight served as a basis to define



priority thematic areas with strategic goals in chapter 5.

Proposal of principles and strategic ICZM guidelines relevant for implementation of the Coastal zone spatial plan is contained in chapter 6.

Action plan defining measures with sub-measures and targets over the NS ICZM time span is presented in chapter 7. In relation to determined sub-measures, a list of priority actions has been elaborated with implementation deadline by 2020.

The last chapter 8 deals with monitoring and evaluation of the NS ICZM implementation, including the set of main indicators.

### ***Coordinating Mechanism for Integrated Coastal Zone Management***

One of the key requirements of the ICZM Protocol relates to the establishment of coherent actions, inter-sectoral and intra-sectoral. In order to overcome sectoral approaches in the implementation of strategies, programmes and action plans, chapter 5.5.1 of NS ICZM proposed that the coordinating mechanism for integrated coastal area management of Montenegro should be organised at two levels: political and technical-administrative levels respectively.

At the political level of action, it was proposed to establish the ICZM Council by the Government and to task it with:

- providing political support and acting in an advisory manner towards the Government of Montenegro in the implementation of NS ICZM and functioning of ICZM institutional system;
- providing support to overcoming problems in institutional organisation of importance for integrated coastal area management (dissected institutional organization, fragmented and poorly differentiated

competences, insufficiently efficient and substandard coordination and integration);

- ensuring representation of all relevant stakeholders (representatives of the Government (key ministries), coastal municipalities, scientific and professional institutions, non-governmental and civil society and the business sector);
- contributing to the harmonization of sectoral policies with NS ICZM and eliminating uncoordinated sectoral planning of the coastal area development;

Taking into account the complexity of the existing institutional framework in Montenegro, the possibility of integrating the ICZM Council into the existing forms of institutional organization, i.e. into the National Sustainable Development and Climate Change Council, was assessed as a pragmatic option. The proposal is based on the compatibility of the composition and functions of the existing and proposed Council. Therefore, it was proposed to extend the existing composition of the National Sustainable Development and Climate Change Council by involving representatives of key decision makers in ministries, administrative bodies and institutions relevant for ICAM, and local self-governments in the coastal area. More specifically, it should function in the following composition (underlined text indicates newly added members):

1. President of the National Council is the President of Montenegro.
2. Members of the National Council are:
  - Minister of Sustainable Development and Tourism;
  - Minister of Economy;
  - Minister of Labour and Social Welfare;
  - Minister of Agriculture and Rural Development;
  - Minister of Transport and Maritime Affairs;
  - Minister of Culture;

- two representatives of the Ministry of Sustainable Development and Tourism (one of which is in charge of integrated coastal area management);
- one representative of the Ministry of Finance;
- Director of the Hydrometeorology and Seismology Institute;
- Director of the Public Enterprise for Coastal Zone Management (future Agency for Coastal Zone Management);
- six presidents of local self-government units (3 of them are presidents of local self-governments in the coastal area);
- one representative of universities licensed in Montenegro;
- three representatives of employers' association registered in Montenegro;
- one representative of the most significant investors in the coastal area;
- one representative of the banking sector;
- one representative of trade union organizations;
- three representatives of non-governmental organizations (for sustainable development, integrated coastal area management and climate change);
- three independent experts (for sustainable development, integrated coastal area management and climate change).

In this way, the current composition of the National Council on Sustainable Development and Climate Change would be expanded by 10 new members, to allow its operation in the context of the proposed functions of the Integrated Coastal Zone Management Council of Montenegro.

Members from the local self-governments, non-governmental organizations, commercial banks and investors would be appointed for a period of one year on a rotating basis, while the other members of the Council would be appointed for a term of three years. The intention is to

encourage proactive action and broader participation of social groups important for ICZM.

To monitor the implementation of the integrated coastal area management policy of Montenegro, including active actions by taking the necessary measures to overcome the difficulties that will inevitably arise in its implementation, it is proposed to establish a special unit for integrated coastal zone management of Montenegro within the agency in charge of sustainable development, environmental protection and spatial planning, as well as the Coordinating Body for Integrated Coastal Zone Management.

In the current organization of state administration, the unit for integrated coastal area management should be established in the Ministry of Sustainable Development and Tourism. While doing so, aiming at the rational use of available institutional resources and by applying the same principles as in case of the ICAM Council, it is possible to integrate this unit into the existing Department to support the National Sustainable Development and Climate Change Council at the Ministry of Sustainable Development and Tourism.

It was suggested and later on accepted that the Coordinating Body for Integrated Coastal Zone Management should have two basic functions:

- to serve as an open forum for discussion on the integrated coastal zone management of Montenegro issues,
- to analyse from the technical standpoint and evaluate the materials on integrated coastal zone management sent to the ICZM Council (National Council on Sustainable Development, Integrated Coastal Zone Management and Climate Change).

At the same time, these functions and tasks enable the Coordinating Body to provide technical support to the ICZM Council (i.e. the proposed future National Council on Sustainable

Development, Integrated Coastal Area Management and Climate Change) acting as its permanent working group.

Via the private-public partnership model, the Public Enterprise for Coastal Zone Management has developed a sustainable management system (protection, planning and improvement) of the public maritime domain, which provides the budget for reinvestment into the public maritime domain management. Also, this enterprise has competences over the public maritime domain, including land and territorial waters (territorial sea), and acts operationally in line with plans and programmes requiring cooperation with the authorities at the state and local level.

In this respect, and taking into account the fact that the new Law on Public Maritime Domain defined the competences of the future Agency for Coastal Area Management in terms of providing technical support in the coordination of integrated coastal area management, this institution will perform, at the technical and administrative level, among others, the following functions for the coordinating mechanism for integrated coastal zone management:

- vice-chairmanship of the Coordinating Body for Integrated Coastal Zone Management, alternated semi-annually between representatives of coastal municipalities and the Agency for Coastal Zone Management;
- providing technical support to the work of the Coordinating Body for Integrated Coastal Area Management;
- participating in providing financial resources for the implementation of activities relevant to the implementation of the integrated coastal area management policy in the spatial coverage of the public maritime domain.

## **B 2.1.** **ICZM institutional-legislative framework setup**

During 2008, the detailed analysis of the harmonization of the former legislative and institutional framework in Montenegro with requirements of the Protocol was made. In addition, it was updated in detail in 2010. Also, a number of studies was made, which among other things, analysed the existing legislative and /or institutional framework from the perspective of coastal zone management. Taking into account the conclusions and recommendations of both studies realized in the framework of this analysis of the national legislative and institutional framework, a brief overview of the status and needs of the existing system was made in the framework of the Institutional and legal framework for integrated coastal zone management of Montenegro as the input analyse for development of the NS ICZM. It was done with a view to develop the appropriate management mechanisms and creating a favourable environment for the sustainable development of the coast. The conclusions and recommendations given in this analysis that was prepared in May 2014 constituted the backbone of the future National Strategy of Integrated Coastal Zone Management of Montenegro (NS ICZM MNE).

The overview of the status of the legislative framework has been prepared in relation to the provisions of the Protocol on ICZM that have been structured following the structure of its key and specific requirements. Following that structure these requirements of the Protocol on ICZM were summarized in three main groups of requirements:

- To achieve the effect of the natural and cultural values, including the preservation of the integrity of coastal ecosystems,
- Regulation and harmonization of coastal activities to ensure environmental protection and sustainable use of coastal resources, and

- Introduction and application of management mechanisms and instruments for sustainable planning, usage and monitoring of the areas and ensuring public participation.

The issue of establishing the institutional coordination is one of the key requirements of the Protocol on ICZM. The existing institutional system was particularly discussed in relation to Article 7 of the Protocol which establishes the obligation of providing institutional coordination through appropriate bodies or mechanisms to avoid sectoral and to facilitate comprehensive-integrated approaches in the management of coastal area. The provisions of Article 7 point 2 are particularly relevant given that the same stipulate obligations to the competent national, regional and local authorities in coastal area, to the extent that it is possible, working together to strengthen the coherence and effectiveness of the coastal strategies, plans and programs.

Therefore, the existing management structure of the importance of the coastal area of Montenegro was discussed, taking into account:

- Coordination between authorities at national and local level, as well as coordination between the various authorities responsible for marine and terrestrial part of the coastal area;
- Inter-sectoral and intra-sectoral coordination in order to achieve the coherence and effectiveness of the coastal strategies, plans and programs, as well as other initiatives that are important for integrated coastal zone management and sustainable valorisation of resources in coastal area.

Based on the results of conducted analyses, a coordination mechanism has been proposed that aims to improve the effectiveness of the management of the coastal zone of Montenegro at the level of policy and the implementation of specific measures of integrated coastal zone management.

Main findings of this Analyse are presented below.

### *Policies and strategies*

National policies do not have clearly defined goals significant for a number of ICZM topics, as is the case in the area of climate change and culture. Other questions of significance for the ICZM Protocol are addressed by a large number of horizontal and sectoral policies, strategies, plans and programmes, on national and local level. Although tasks and objectives defined by these documents are compatible with the provisions of the ICZM Protocol, there are certain conflicts and deficiencies. The most significant conflicts in relation to the ICZM Protocol as well as among different sectoral documents include:

- Preservation of natural and cultural heritage and coastal resources as opposed to further urbanisation, real estate projects, construction of tourist capacities and infrastructure; some of the planned development projects in the coastal zone contain elements which are opposed to the Protocol's requirements to provide for a balanced distribution of coastal activities, minimise the use of resources, avoid linear coastal urbanisation, establish open areas and similar.
- Conflicts between the goals of climate documents (The Second National Communication, Technological Needs Assessment) and the guidelines of certain sectoral and spatial plans which foresee construction of tourist, infrastructure and other capacities in the zones prone to climate change impacts and important for adaptation.

Ecosystem approach, concept of the coastal setback, enabling free access to the sea and public use of coastal zone space, prevention of linear coastal urbanisation and planning of activities in line with environmental needs,

decision making on the basis of scientific facts are the requirements of the ICZM Protocol that are not at all or are partially incorporated into national and local policy documents. Other ICZM Protocol requirements are mainly integrated in the goals set under national and local documents.

Assessments of the level of implementation of strategic documents have been also made in the NS ICZM preparation process in the framework of analysis of national policies' compatibility<sup>3</sup> with the ICZM Protocol on the basis of available information and expert opinion. These have shown that main incompatibilities of national and local policies, strategies and plans in relation to the ICZM Protocol lie in the process of their implementation rather than in the way their goals are set. Progress in the achievement of goals of different sectors and horizontal strategies and plans has been mainly evaluated as weak or modest, while as progress with the achievement of a small number of goals has been evaluated as good. According to evaluations contained in this assessment, there are no goals that have been fully achieved in the manner defined by the document itself (within the defined deadline and in the defined scope). A general acceptance of sustainability goals is pronounced, without creation of necessary conditions and coordinated efforts for their achievement. Declarative character of a significant number of documents leads to various interpretations of their goals and contributes to non-implementation.

A lack of technical and financial resources and capacities for implementation of the adopted strategies, programmes and plans contributes significantly to an unsatisfactory level of implementation of public policies. Long-term planning is difficult and unreliable, often resulting in unrealistic or overambitious plans and strategies.

<sup>3</sup> Thirty national and ten local strategies, policies and plans were analysed, including *The Spatial Plan of Montenegro*.

## Regulations

Issues important for coastal zone management are regulated by a large number of national laws. A number of relevant laws is being amended, while others have recently been adopted in the process of harmonising national with the EU legislation. Although it can be assessed that Montenegrin legislation is to a large extent harmonised with the ICZM Protocol requirements, certain important provisions have not been transposed (fully or partially)<sup>4</sup> yet.

In addition to identified inconsistencies and gaps in the legal framework, a very important shortcoming (perhaps the most important one) affecting the achievement of the goals of the ICZM Protocol is poor implementation of regulations, and this is quite similar to the situation found in the area of policies. Control of the activities at sea, for example, is not on a satisfactory level, and the same goes for the measures on protecting the sea against pollution from vessels. It is also important to point out weaknesses in implementing regulations on environmental assessments including formalised processes, lack of necessary data, lack of monitoring of the implementation of measures to mitigate negative impacts that are foreseen in the assessment reports, etc.

Besides the analysis of weaknesses and shortcomings of the present legislative framework, the CAMP has contributed to strengthening of the national legislative framework by means of providing a direct support to drafting of new Law on Spatial Development and Construction, Law on Coastal

<sup>4</sup> Assessments are based on the analyses (from 2010 and 2011) carried out in the framework of procedures for the adoption of the Law on Ratification of the ICZM Protocol (Official Gazette of Montenegro no.16/11) as well as on the more recent Analysis of the national institutional and legislative framework for integrated coastal zone conducted in the process of development of this Strategy (from July 2014). Analyses carried out in the process of amending the Law on spatial planning and construction of objects have been also taken into account.

Zone and Environmental Protection Law. By virtue of that the provisions defining coastal area and the principles of spatial planning and construction worded in compliance with the ICZM Protocol were integrated into the Law on Spatial Development and Construction. An integral approach to management of marine and coastal area, with the emphasis on managing valuable ecosystems, was integrated in the Law on Coastal Zone while the NS ISCZM defined as a strategic national document in the field of environment and sustainable development was integrated in the Environmental Protection Law.

### ***Institutions and coordination***

The Analyse of the institutional framework that is relevant for ICZM confirmed that the existing public administration system is complex in terms of both levels of administration (national and local) and sectoral competences assigned to numerous ministries and administrative bodies they coordinate, as wells to the local government authorities. Despite a significant number of established coordination bodies at horizontal, but also on vertical (top down) level, inter-ministerial cooperation is not integrated into all processes and activities that are relevant for coastal zone management. Such a complex management system carries a risk from excessively complicated procedures, along with the lack of harmonised action and practical implementation of sustainability principles.

The Analyse indicated a number of management system weaknesses. Some of them are listed below:

- There is **unsatisfactory level of specificity** of goals and expected results of public policies, as well as the lack of commitment to pursue the set goals.
- Actions of public administration are often characterised by **insufficient transparency** in the process of adoption and implementation of public policies.
- **Lack of capacity**, primarily in human resources, has been recognised as a deficiency by several institutions in the consultation process during the NS ICZM development, despite the fact that certain segments of public administration in Montenegro are already oversized.
- Working conditions in the public administration system and related **procedures for promotion and evaluation of achieved results** are not based on valuation of outstanding abilities.
- **Information system weaknesses**, in particular lack of and/ or unavailability of functional data and lack of their use for the assessment of state, monitoring of changes, setting of goals and evaluation of results of implementing certain measures in the coastal zone are among the most significant deficiencies of the coastal zone management system. Besides, there is an evident lack of knowledge and experience in using **modern decision-making mechanisms** with elaborated and objective criteria.
- **Scientific research is rare** since it requires considerable technical and financial resources, and its results are even more rarely used in decision-making. Moreover, the scope of research in the context of **monitoring the state of coastal and marine environments and coastal processes** is insufficient.
- This weakness results in a **lack of systematically gathered and comparable time series of data** on important parameters of the state of environment, space, coastal processes and natural and anthropogenic hazards, thus complicating management and increasing risks of making wrong decisions. Besides, data are often not prepared and adjusted to be used in other sectors as well (e.g. in spatial planning). This reduces considerably their practical value. Main shortcomings of this area also include **mutual incompatibility** between the existing databases and unsatisfactory communication

and data exchange between numerous entities competent for coastal zone management. This refers primarily to the data at the disposal of public administration and scientific and professional institutions. There are still cases of data withholding and insufficient cooperation.

In compliance with the results of the Analysis of Institutional and Legislative framework, the NS ICZM proposes the structure and model of functioning of the coordinating mechanism for integrated management of the coastal area that is to improve the present system of the coastal area management. ICZM coordination mechanism operates at two levels: political and professional-administrative level. The structure and functions of the coordination mechanisms have been presented under B 2 activities.

In compliance with that, we can conclude that the objectives and actions that were planned in activity B 2.1 of the ICZM institutional-legislative framework setup have been fully completed, and the outcome has been achieved to the full and well beyond its planned scope.

## **B 2.2 Recommendations for selected ICZM measures, including the coastal setback elaboration with rules of its implementation/adaptation**

In order to fulfil tasks defined in the Inception report with regard to the activity B 2.2

Recommendations for selected ICZM measures, including the coastal setback elaboration with rules of its implementation/adaptation, the Study on determination of the coastal setback has been prepared. Its preparation was initiated after the completion of the analysis of the vulnerability of the narrow coastal area. Actually detailed analysis of vulnerability in the narrow coastal zone was realized as to provide outcomes to be used for determination of the set-back line i.e. for determination of the zone

with restricted or prohibited construction along the shoreline in accordance with the ICZM Protocol. From September 2012 until August 2013 proposal of the coastal setback types and related criteria for their determination have been adjusted a few times to the changes of the Synthetic map and built up assessment of the coastal area as it is described in activity B 1.3.

Coastal setback is one of the ICZM Protocol requirements whose application demands dealing with matters which are competence of the national spatial planning system. The ICZM Protocol also provides for adaptations (exemptions from application) of the coastal setback (to less than 100 m) in the areas having particular geographical and other constraints and for projects of public interest which must be specified through a national legal act in accordance with the Protocol's principles and goals. Thus two groups of criteria were designed in order to ensure objective and uniform determination of the setback and conditions for its adaptation or extension. The first group includes anthropogenic criteria – land uses planned in the existing spatial planning documents and the state of built-up areas. The second group includes criteria dependent on natural and physical properties of the coastal zone which are grouped into four degrees of vulnerability. The matrix for consistent action in various typical situations was proposed on the basis of these criteria. Their application led to identification of high vulnerability areas (including vulnerability to climate change impacts) in which conditions are in place, in accordance with the ICZM Protocol, to extend the setback zone. In such a manner ten setback types were determined. Their **share in total length of coastal line according to the state of detailed planning documents from August 2013 is presented in Table 5.**

In accordance with the proposed setback types, the guidelines relevant for the SPSPCZ MNE are defined in NSICZM as follows:

- Define types of setback with the possibilities of adaptation and present them on a proper map together with the guidelines for application, as an obligation for lower level plans.
- Define zones for the extension of setback as an obligation for lower level plans.
- Criteria developed under the CAMP and confirmed by expert and concerned public should serve as a basis for implementation of the guidelines mentioned above.

**Table 5: Total length and share of various setback types according to the state of detailed planning documents from August 2013**

SETBACK TYPE	LENGTH (m)	SHARE%	DESCRIPTION OF THE SETBACK TYPE
1	70,018	29.2	Built-up coast - setback cannot be applied
2	51,862	21.6	No setback due to inherited rights – SLS, LLS, DUP and UP
3	7,795	3.2	Adaptation in partly developed CA – <b>urban planning criteria</b>
4	0	0.0	Adaptation in partly developed CA – <b>urban planning criteria</b> with <b>additional measures</b>
5	23,807	9.9	Adaptation for the <b>projects of public interest</b>
6	718	0.3	Adaptation for the <b>projects of public interest</b> with <b>additional measures</b>
7	3,977	1.7	Adaptation, priority to <b>legalisation and rehabilitation</b>
8	1,536	0.6	Adaptation, priority to legalisation and rehabilitation with <b>additional measures</b>
9	64,244	26.8	No adaptation
10	16,200	6.7	Conditions for extension
<b>TOTAL</b>	<b>240,157</b>	<b>100.0</b>	

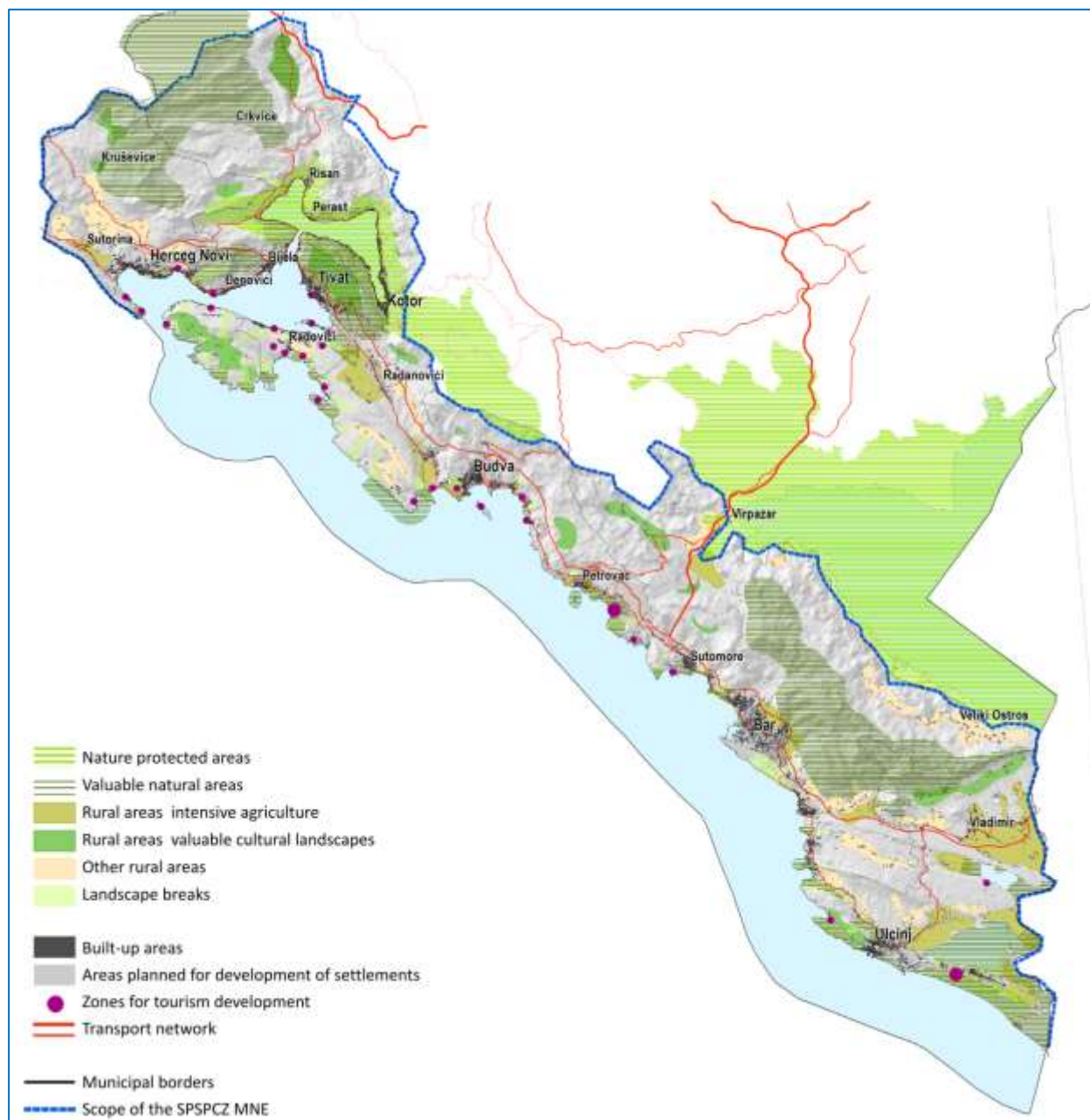
### **Preservation and sustainable development of open rural areas**

The aim of the ICZM Protocol requirements and their intention is to also protect open rural areas from intensive urbanization that would endanger their values and character. That is why valuable open rural spaces are delineated and protected on a priority basis specifically in the areas that are relatively accessible and potentially exposed to development pressures. Therefore the NS ICZM identified the open rural spaces in which environmental protection and stimulation of development interests are equally important, in line with the outcomes of the built up assessment and determination of the coastal setback. These are areas with predominantly rural characteristics in which future construction

should be exclusively linked to the existing traditional settlements or activities of agricultural households. A part of the open space system includes areas with fertile soil and valuable traditional cultural landscape whose preservation serves as a basis for multi-functional rural development in which agricultural production is combined with tourism offer (agro-tourism) and various forms of outdoor recreation. Taking above into account the NS ICZM defined guidelines relevant for determination of open areas in the SPSPCZ MNE (Map 1).

The results achieved in determining setback and defining open rural areas indicated that all the actions and outcomes were realized and achieved as they have been defined in the Inception report for the activity B 2.2.





Map 1: Concept of sustainable spatial development of the coastal zone of Montenegro

### B 2.3 Facilitating implementation of the ICZM Protocol principles in the SPSPCZ MNE and SEA

The SPSPCZ MNE is a spatial plan for an extremely valuable part of the Montenegrin territory which should set out how the most

valuable land and marine resources will be used in the context of needs of economic and other activities. Therefore the whole process of CAMP realization was set up in a way to enable NS

ICZM and SPSPCZ MNE to provide mutually harmonized and compatible answers to the problems of the coastal area.

Implementation of CAMP activities leading to adoption of the NS ICZM as its final outcome coincided with development of the SPSPCZ MNE and enabled cooperation between expert teams tasked with preparation of these documents. CAMP activities were practically oriented, while transposition of requirements set out in the ICZM Protocol was aligned with needs of certain phases in development of the SPSPCZ MNE. At the same time, the Plan's developer informed CAMP team about the state in space, available data and baseline documents, as well as about results of the performed analysis. In the framework of its activities, CAMP team insisted on coordination and consequently it set up some kind of an informal, temporary coordination mechanism for the ICZM. Links between various sectors were established through the vulnerability and suitability assessments. At the same time, sectoral and synthesised (joined) databases were prepared serving also as baselines in the SPSPCZ MNE development.

The NS ICZM considers more broadly and in more details the entirety of complex processes occurring in the coastal zone and related competences of the relevant state authorities. Based on the assessemnet of exisitng state, mutually harmonised systemic measures for strengthening structures for integrated coastal zone management are proposed, and specific guidelines for sustainable spatial development defined.

That is why one of the goals of the NS ICZM was to provide response to the question on how the temporary situation established during CAMP project may be transformed into a permanent ICZM mechanism on the basis of which spatial planning methods and standards applied in

CAMP activities and used in development of the SPSPCZ MNE may be formally incorporated into the spatial planning system and into legislation.

Baseline studies developed under CAMP umbrella provided a platform for integration of the ICZM concepts and tools into the SPSPCZ MNE. Thus SPSPCZ MNE development was based on the spatial planning methodology that co-ordinates developmental interests and the demand for environmental protection. Since some of the taken approaches were innovative and partly more demanding in technical terms compared to the previous practices (e.g. use of GIS technology and spatial databases), CAMP team was engaged on building capacities of spatial planning teams and state administration responsible for spatial planning as to enable such methods and techniques to be incorporated into continuous professional development programmes. With regard to that the set of practical guidelines that are relevant for SPSPCZ MNE are defined in section 6.2 of the NS ICZM.

A detailed description of the harmonization of the two processes is presented in the framework of the above-mentioned reports on realization of activities B1 and B2. In this way all tasks, actions and outcomes defined in the Inception report have been achieved. CAMP has provided essential support for the preparation of SPSPCZ MNE and its SEA, what caused the extension of realization of the CAMP and preparation of the NS ICZM for one year. It is important to note that the content and methodology for vulnerability assessment were fully adjusted to the requests of the Low on SEA, or needs of SPSPCZ MNE and its SEA. Since the NS ICZM is aimed to strengthen protection and sustainable management of coastal areas, it was not necessary to realize separate SEA for NS ICZM according to the Law on SEA.

Table 6: ICZM framework setup: Work Plan and Timetable

No. Phase/action	Output(s)	Realization
<b>1. Detailed formulation</b>		
1.1 Preparation of Technical Specification	Draft Technical Specification	March 2012
1.2 Presentation of TS at the Inception Conference	Inception Conference Report	March 2012
1.3 Final version of the TS	Technical Specification	April 2012
<b>2. Implementation</b>		
2.1 Analysis of the current legal and institutional framework and of the required changes for integrated management	Proposal of institutional and legislative set up for ICZM, including ICZM coordination mechanism	May 2015
2.2 Definition of criteria for determination of the setback zone and for rehabilitation of degraded areas; support for implementation of these and other selected ICZM measures	Recommendations on implementation of selected ICZM measures (in particular for Article 8 of the ICZM Protocol)	November 2012
2.3 Provision of technical assistance on integration of ICZM principles into CASP development (harmonisation of the ICZM Plan and CASP)	Suggestions and advices to CASP developers	Regularly, till the end of the CASP process
2.4 Definition of the contents and structure of the NS ICZM Plan	The contents and structure of the NS ICZM	June 2012
2.5 Definition of the contents and structure of the ICZM Plan following the objectives and priority areas defined in the NS ICZM	The contents and structure of the ICZM Plan	June 2012
2.6 Definition of the measures for the ICZM Plan and Strategy implementation	The set of measures to support the ICZM Plan and Strategy implementation	August 2013
2.7 Undertaking SEA for the ICZM Plan	SEA	During the ICZM Plan drafting
2.8 Adoption and approval of the ICZM Plan with the NS ICZM	ICZM Plan NS ICZM	March 2014



**Annex I:  
The List of Meetings that were  
organized in period January 2012  
– January 2015**



<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>Inception Conference</i>	22 March 2012	Hotel Podgorica, Podgorica, Montenegro	Participatory Meeting	72	<ul style="list-style-type: none"> <li>▪ All activities related to the CAMP Montenegro and ICZM Strategy will be undertaken jointly, as a single process with the single outcome</li> <li>▪ CAMP Montenegro Coordinator will coordinate the activities related to ICZM Strategy as well</li> <li>▪ Single document – National ICZM Strategy and Plan for Montenegro will be prepared</li> </ul>
<i>Introductory vulnerability assessment meeting</i>	23 March 2012	Ministry of Sustainable Development and Tourism (MSDT), Podgorica	Expert meeting (national & international)	12	<ul style="list-style-type: none"> <li>▪ Agreed on key steps necessary for undertaking the assessment</li> <li>▪ Agreed that lists of all the available data (primarily cartographic) will be prepared</li> </ul>
<i>Expert meeting for the vulnerability assessment</i>	23–25 May 2012	MSDT, Podgorica	Expert meeting (national & international)	ca 20	<ul style="list-style-type: none"> <li>▪ Final screening of the available data was done;</li> <li>▪ Agreed methodology for data evaluation;</li> <li>▪ Agreed methodology for cartographic evaluation and presentation of selected data for the purpose of vulnerability modelling.</li> </ul>
<i>Expert meeting for the vulnerability assessment</i>	25 May – 26 June 2012	MSDT, Podgorica	Expert meeting (national & international)	ca 20	<ul style="list-style-type: none"> <li>▪ Validated matrixes for data evaluation;</li> <li>▪ Preliminary cartographic presentations of the selected data (outcomes) discussed;</li> <li>▪ Recommended necessary steps for finalization of the cartographic layers.</li> </ul>
<i>Joint Workshop of the expert teams for Coastal Area Spatial Plan (CASP), CAMP/Strategy and SEA for CASP/CAMP/Strategy</i>	27 June 2012	MSDT, Podgorica	Small presentation workshop	ca 15	<ul style="list-style-type: none"> <li>▪ Presentation of methodology used in CAMP/Strategy process and main results achieved;</li> <li>▪ Presentation of expected outcomes for 2012 within CAMP/Strategy;</li> <li>▪ Critical review of the status of spatial planning documentation, prepared as part of CASP process;</li> <li>▪ Recommendations for the future joint steps</li> </ul>
<i>Carrying capacity field survey with meetings</i>	23–25 July 2012	Budva, Tivat, Herceg Novi, Kotor, Bar, Ulcinj	Meetings with representatives of the local municipalities and PE Morsko Dobro	ca 15	<ul style="list-style-type: none"> <li>▪ The carrying capacity concept introduced in order to make local authorities informed on the assessment that will take place in the following months;</li> <li>▪ The available information reviewed;</li> <li>▪ Key tourism problems in the area discussed.</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>First Steering Committee Meeting</i>	25 July 2012	MORT, Podgorica	Steering Committee Meeting	19	<ul style="list-style-type: none"> <li>▪ Confirmed membership of the Steering Committee;</li> <li>▪ Rules and procedures of the Steering Committee functioning presented;</li> <li>▪ Current activities, budget and future steps presented;</li> <li>▪ Achievements and future steps for TIMP Buna/Bojana presented;</li> <li>▪ Recommended that SC is raised on the higher level.</li> </ul>
<i>Expert meeting for the vulnerability and attractiveness assessments</i>	19–21 November 2012	MORT, Podgorica	Expert meeting (national & international)	24	<ul style="list-style-type: none"> <li>▪ The progress on general vulnerability assessment reviewed;</li> <li>▪ Current gaps and future steps identified;</li> <li>▪ Necessary activities that need to be coordinated with the CASP team agreed;</li> <li>▪ Necessary activities related to coastal attractiveness introduce (agreed that the assessment would be done for agriculture only);</li> <li>▪ Necessary activities related to vulnerability of the narrow coastal area introduced; its link with the set-back discussed.</li> </ul>
<i>Expert meeting for the vulnerability assessment</i>	12–13 December 2012	MORT, Podgorica	Expert meeting (national & international)	8	<ul style="list-style-type: none"> <li>▪ The progress made in preparing vulnerability of the narrow coastal areas analyzed; special reference to habitat mapping and stormy winds made;</li> <li>▪ Cartographic presentations of vulnerability assessment analyzed;</li> <li>▪ The main criteria for determining the set-back discussed;</li> <li>▪ General agreement on methodology for defining directions to determine the setback line introduced;</li> <li>▪ Methodology for integration of CCA with the vulnerability assessment discussed.</li> </ul>
<i>The Workshop for determination of the coastal set back zone, the analyze of the vulnerability assessment of the narrow coastal area and attractiveness assessment of the coastal area of Montenegro</i>	11–14 February 2013	MORT, Podgorica	Expert meeting (national & international)	8	<ul style="list-style-type: none"> <li>▪ The calibration of the general vulnerability assessment of the coastal area of Montenegro</li> <li>▪ The test of calibration indicated high compatibility of the general vulnerability assessment results, but also provided significant information about unsustainable trends in planning the use of space in the coastal area.</li> <li>▪ Discussion on the results in determination of the coastal set back, the vulnerability of the narrow coastal zone and attractiveness assessment</li> <li>▪ The consultations on the content of the NS ICZM</li> </ul>



<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>The meeting of the core team of the CAMP with Mr. Branimir Gvozdenović</i>	17 April 2013	MORT, Podgorica	Meeting of the management team of CAMP and experts (international) with policy decision makers	6	<ul style="list-style-type: none"> <li>▪ Presentation of the results of the analysis of the of the General Vulnerability Assessment of the Costal Area of Montenegro with a focus on identified conflict zones</li> <li>▪ Presentation of the results of the vulnerability assessment of the narrow coastal area of Montenegro</li> <li>▪ The presentation of the preliminary calculated results of the urbanization of the coastal area of Montenegro</li> <li>▪ A brief overview of the importance of the analysis of the attractiveness of agriculture, socio-economic development of the coastal area</li> <li>▪ Opinion and recommendation given to the team of CAMP by Minister Branimir Gvozdenović</li> </ul>
<i>The Second Meeting of the Steering Committee for the CAMP and the NS ICZM</i>	18 April 2013	MSDT, Podgorica	Steering Committee Meeting	20	<ul style="list-style-type: none"> <li>▪ The general overview of the progress in development of the CAMP and the NS ICZM;</li> <li>▪ Integration of the results of the General Vulnerability Assessment and the Assessment of the Attractiveness of the Agriculture in the coastal area of Montenegro into the CASP;</li> <li>▪ Integration of the ICZM Protocol requirements into the CASP (urbanization of the narrow coastal area; directions for coastal set back zone determination);</li> <li>▪ Presentation of the expected results of the Socio-economic analysis;</li> <li>▪ Presentation of the Position Paper as the basis for development of the NS ICZM.</li> <li>▪ Approval of the project documents that were finalized and provide the guidelines for others that were in the process of development</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>The Annual Conference for the CAMP and the NS ICZM</i>	22 March 2012	MSDT, Podgorica	Broad-stakeholder meeting, open to public	ca 55	<ul style="list-style-type: none"> <li>▪ The Annual Conference was opened by Mr. Branimir Gvozdenović, Minister of Sustainable Development and Tourism of Montenegro, Ms. Željka Škaričić, Director of PAP/RAC and Mr. Rastislav Vrbensky, UNDP Resident Representative in Montenegro;</li> <li>▪ The representatives of the relevant national authorities, the municipalities, the international organizations that are present in Montenegro and the companies that are contracted for development of the local spatial plans were especially interested in the discussion;</li> <li>▪ A number of issues were pointed out; the practical implementation of the CAMP results into spatial planning documents were the most important, as well as the techniques to support their integration into spatial plans and adjustments of the national legislation and policies to the ICZM requirements.</li> </ul>
<i>The field survey</i>	16–18.03.2013	Budva, Kotor and Bar and off shore survey along the coast	CAMP management team and expert team (national and international)	10	<ul style="list-style-type: none"> <li>▪ The criteria and guidelines for determination of the setback zone was reviewed</li> <li>▪ Developer of the CASP joined the field survey</li> <li>▪ The participation of the landscape expert was provided due to lack of the analyze of the landscape values of the coastal area</li> <li>▪ Apart of the finalization of the synthesis map, the format of the CASP and use of the results of CAMP in the proposed development scenarios were the subject of consultations with the CASP team</li> </ul>
<i>The Workshop on implementation of the Article 77 of the Regulation regarding the construction areas and finalization of the synthesis map</i>	10–12 July 2013	MSDT, Podgorica	Meeting of the CAMP management team and expert team (national and international) with policy decision makers and RZUP	12	<ul style="list-style-type: none"> <li>▪ Consultations at policy and political level have been initiated by the CAMP Coordinator and the PAP/RAC Programme Officer due to fact the problems with synthesis map finalization jeopardized the CAMP activities</li> <li>▪ Two main groups of the most important issues have been considered: 1. implementation of the Article 77 of Regulation regarding the construction areas and 2. gaps and problems in finalizing the synthesis map</li> <li>▪ The Workshop included the segment of the high level consultations with Minister Gvozdenović and decision makers in the Ministry for Sustainable Development and Tourism, as well as the work with RZUP in order to finalize the synthesis map.</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>The coordination meeting with RZUP</i>	18 April 2013	MSDT, Podgorica	The working/ capacity building meeting	8	<ul style="list-style-type: none"> <li>▪ The CAMP team has presented development that occurred from the last coordination meeting that was organized in February 2013</li> <li>▪ The results of calibration were presented</li> <li>▪ The expectations towards further transposition of the CAMP's results into CASP, asking RZUP for methodology that was expected to be applied in that respect</li> <li>▪ The importance of selection and elaboration of the development scenarios that will be developed in the framework of the CASP was particularly emphasized</li> <li>▪ The lack of definition of a network of settlements was raised</li> <li>▪ Information on SEA for the CASP have been exchanged</li> <li>▪ The proposal of development scenarios, the network of settlements and the SEA methodology of work will be submitted to the CAMP team not later than 3 weeks after the meeting.</li> </ul>
<i>The coordination meeting with RZUP</i>	23 May 2013	MSDT, Podgorica	The working/ capacity building meeting	8	<ul style="list-style-type: none"> <li>▪ The development scenarios and related alternatives were the central topic for discussion.</li> <li>▪ A number of conclusions related to finalization of the development scenarios in accordance with the suggestions of the CAMP team and the expected opinion of the Council for Spatial Planning have been formulated</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>The Workshop on the development scenarios for the CASP development</i>	24 June 2013	MSDT, Podgorica		ca 30	<ul style="list-style-type: none"> <li>▪ Upon receiving the expert opinion of the Council for Spatial Planning, the Workshop was organized</li> <li>▪ RZUP, Horwath Consulting and Monte CEP/CEP, as the consortium responsible for CASP development, have presented the progress in development of the CASP, with the special focus on the development scenarios and their further elaboration in order to produce the Draft of the CASP.</li> <li>▪ Minister Branimir Gvozdenović has concluded the Workshop by formulating a number of the conclusions</li> <li>▪ RZUP is responsible to further elaborate development scenarios by taking into consideration the recommendations and objections of the Council for Spatial Planning and the CAMP expert team</li> <li>▪ RZUP is obligated to prepare the coherent document that will be submitted to the Government of Montenegro in order to decide on the primary development scenarios</li> <li>▪ the prioritized scenario will create the basis for development of the Draft of the CASP</li> </ul>
<i>National experts' meetings</i>	February 2012 – July 2013 (minimum once a week)	MSDT, Podgorica	Working meetings of National Coordinator with the individual experts and different experts' groups-Task Groups	2; 5–10	<ul style="list-style-type: none"> <li>▪ Harmonizing and verifying findings; guiding the expert work and agreeing the next steps.</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>Workshop for Built up assessment of the coastal area</i>	10–12 July 2013	MSDT, Podgorica	Working meeting of CAMP core team with SPSPCZ MNE spatial planning team; Consultations of CAMP core team with decision makers in MSDT;	10	<ul style="list-style-type: none"> <li>▪ The main topic of the meeting was to finalize the Synthetic map of the construction of the coastal area of Montenegro.</li> <li>▪ Map of construction areas or map of construction land would be prepared as a derivation from the synthetic map thereof, so that the map of construction land would present all uses of land where construction is planned for a whole range of activities or functions in a given area.</li> <li>▪ After technical part was completed, consultations at political level were organized to discuss the issues important for the implementation of the Regulation on Closer Contents and Form of the Planning Document, Criteria for the Use of Space, Elements of Urban Regulation and Unique Graphic Symbols, with particular reference to construction areas.</li> </ul>
<i>Workshop for determination of the coastal setback</i>	24–25 September 2013	MSDT, Podgorica	Working meeting of CAMP expert team; Consultations of CAMP core team with SPSPCZ MNE and decision makers in MSDT	15	<ul style="list-style-type: none"> <li>▪ Following the concept for determination of the coastal setback and principles on how to determine the coastal setback zone CAMP expert team reviewed the proposed criteria and guidelines for introducing setback.</li> <li>▪ CAMP expert team presented criteria and guidelines for introducing setback, as well as all proposed types of coastal setback to decision makers in MSDT and to SPSPCZMNE expert team.</li> </ul>
<i>Workshop for verification of the coastal setback, preparation of the concept for determination of open spaces and discussion of the concept and content of NS ICZM and ICZM Plan</i>	23–25 October 2013	PAP/RAC, Split	Working meetings of CAMP core expert team	4	<ul style="list-style-type: none"> <li>▪ The expert team validated the results of coastal setback determination and analyzed the documentation base of the CAMP MNE in the context of defining methodology for drafting the concept and plan of open spaces.</li> <li>▪ The expert team decided to have the concept for open spaces in coastal area of MNE developed as the regime of use that should be transferred to SPSPCZ MNE.</li> <li>▪ The expert team approved concept for development of the NS ICZM and decided to look for external expert position on relations among the NS ICZM and ICZM Plan.</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>Workshop: Key aspects of the integrated coastal zone management in Montenegro</i>	29 January 2014	Becici, Budva	First Participatory Meeting for NS ICZM development	75	<ul style="list-style-type: none"> <li>▪ Integration of environmental protection goals into sectoral policies (policies of spatial planning and economic development) in the context of implementation of ICZM instruments: presentation of key CAMP outcomes</li> <li>▪ Presentation of drivers, pressures, impacts and state in key thematic areas for NS ICZM</li> <li>▪ Evaluation and recommendations from the participants of the expert findings</li> </ul>
<i>Harmonisation of special purpose spatial plan for Montenegro (SPSP CZ) and spatial and urban plans of municipalities with the Coastal Area Management Program for Montenegro (CAMP MNE)</i>	11–13 February 2014	Podgorica	Harmonization-capacity building programme	60	<ul style="list-style-type: none"> <li>▪ Presentation of CAMP outcomes</li> <li>▪ Presentation and discussion on the development scenarios that were proposed in SPSPCZ</li> <li>▪ Discussion of the construction zones proposed in SPSPCZ and some of local spatial plans that were in under development with regard to CAMP findings</li> <li>▪ Training programme as to increase capacities of spatial plans developers to apply CAMP recommendations</li> </ul>
<i>Workshop: The Major shortcomings in integrated coastal zone management in Montenegro</i>	21 March 2014	Bar	Second Participatory Meeting for NS ICZM development	70	<ul style="list-style-type: none"> <li>▪ Determination of main shortcomings and gaps in integrated coastal zone management in Montenegro thematic areas: spatial planning, agriculture and tourism</li> <li>▪ Discussion on the problems that were identified by expert team and their causes</li> <li>▪ Participants commented problems by fulfilling the questionnaires and making problems prioritizations</li> </ul>
<i>Workshop: Harmonization of the SPSP CA MNE with the results of the CAMP MNE, 18-19 June 2014, Podgorica</i>	18–19 June 2014	Podgorica	Harmonization-capacity building programme	12	<ul style="list-style-type: none"> <li>▪ Discussion on CAMP findings on built up assessment, determination of the construction zones, definition of the spatial purpose categories, application of the spatial use indicators</li> <li>▪ Elaboration of methodological and technical shortcomings in SPSPCZ</li> <li>▪ Transfer of best practices from CAMP to SPSPCZ</li> </ul>
<i>Workshop: Institutional-legislative framework for the integral management of the coastal area in Montenegro, 24 June 2014, in Podgorica</i>	24 June 2014	Podgorica	Third participatory Meeting for NS ICZM development	20	<ul style="list-style-type: none"> <li>▪ Presentation of the legislative set up analyses</li> <li>▪ Presentation of the institutional set up analyses</li> <li>▪ Discussion of the proposals as to improve institutional and legislative set up, including proposal of the ICZM coordination mechanism</li> <li>▪ Fulfilling related questionnaires</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>Workshop: Establishing coordination mechanism for integral management of coastal area in Montenegro</i>	10 July 2014	Budva	Fourth participatory Meeting for NS ICZM development	21	<ul style="list-style-type: none"> <li>▪ Discussion on the proposed scenarios for establishment of the ICZM coordination mechanism</li> </ul>
<i>Workshop: Priorities of the National Strategy for Integrated Coastal Zone Management of Montenegro (NSICZM MNE) and presentation of the activities on establishment of the protected marine area at Platamuni</i>	31 July 2014	Przno, Budva	Fifth participatory Meeting for NS ICZM development	30	<ul style="list-style-type: none"> <li>▪ Presentation and discussion of priorities, specific goals and vision of NS ICZM</li> <li>▪ Review of the progress achieved during the implementation of establishment of protected marine area at Platamuni</li> <li>▪ Discussion, suggestions and proposals from the participants to expert team</li> </ul>
<i>Consultations of the Collegium of the Ministry for Sustainable Development and Tourism on NS ICZM</i>	25 July 2014	Kučka korita, Podgorica	Harmonization Meeting	15	<ul style="list-style-type: none"> <li>▪ Presentation of the progress in NS ICZM development</li> <li>▪ Discussion on the proposed structure, content and priority themes of NS ICZM</li> <li>▪ Assessment of NSICZM and SPSPCZ consistency</li> <li>▪ Directions from MSDT on how to enable two process harmonization at satisfactory level</li> </ul>
<i>The workshop for CAMP's team</i>	15–17 October 2015	Podgorica	Expert team coordination meeting	7	<ul style="list-style-type: none"> <li>▪ Strategy were analyzed in detail, amendments and fine-tunings made and tasks in the team divided towards finalizing the draft of the NS ICZM</li> <li>▪ Proposal of further sets of measures and sub-measures of the Action plan were given</li> <li>▪ Directions to harmonize measures and sub-measures with strategic goals</li> <li>▪ The proposal of key indicators for monitoring of the implementation of the NS ICZM was considered and amended</li> </ul>
<i>Third session of the Steering Committee of the CAMP and NS ICZM</i>	19 November 2014	Podgorica	Steering Committee Meeting	14	<ul style="list-style-type: none"> <li>▪ Draft of the NS ICZM was considered and support was expressed to its submission to the Government of Montenegro</li> <li>▪ A number of recommendations and proposal aimed to improve Draft were expressed</li> </ul>

<i>Title of the meeting</i>	<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>No of partic.</i>	<i>Main highlights/conclusions</i>
<i>Final CAMP Conference</i>	18 October 2014	Miločer, Budva	Broad-stakeholder meeting, open to public	70	<ul style="list-style-type: none"> <li>▪ Presentation and promotion of CAMP results and NS ICZM</li> </ul>
<i>Public hearing-Round table</i>	30 January 2015	Podgorica	Public hearing	20	<ul style="list-style-type: none"> <li>▪ The round table gathered together stakeholders and representatives of the competent authorities and institutions who reiterated their positions presented in the previous consultation process for the Draft NS ICZM</li> <li>▪ The participants expressed their expectation that the drafting and realization of the SPSP CZ would be delivered likewise, and that by the same token decisions to be rendered in it would protect natural resources located in the coastal area of Montenegro</li> <li>▪ Remarks, proposals and suggestions were expressed to the Draft NS ICZM MNE</li> </ul>







CAMP Montenegro is a programme implemented jointly by United Nations Environment Programme Mediterranean Action Plan (UNEP/MAP) and the Montenegrin Ministry of Sustainable Development and Tourism (MSDT), with the involvement of local governments from the project area and of other relevant institutions.

The main objectives of the CAMP Montenegro include:

- creation of necessary mechanisms that can help achieve sustainable development of the coastal area;
- support for the implementation of national policies and the ICZM Protocol of the Barcelona Convention;
- promotion of integrated and participatory planning and management in the coastal area;
- development of national and local capacities for ICZM and raising awareness of the importance of the coastal area, complexity and fragility of its ecosystems and of the need for integrated approaches in managing them;
- facilitation of the transfer of knowledge on ICZM tools and approaches.

The main output of the programme is the ICZM Strategy and the Plan for Montenegro.