# Evaluation of EU/UNDP Projects

## Improving Environmental Monitoring in the Black Sea, EMBLAS-II and EMBLAS-Plus

Final Report


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## Basic Project Information

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|---|---|---|
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# Acronyms and Abbreviations

| | |
|---|---|
| APENA | Support to Ukraine in Approximation of the EU Environmental Acquis (EU funded project in Ukraine) |
| BS | Black Sea |
| BSC | Black Sea Commission (Commission on the Protection of the Black Sea Against Pollution) |
| BSIS | The Black Sea Information System |
| BSIMAP | Black Sea Integrated Monitoring and Assessment Programme |
| BS SAP | Black Sea Strategic Action Plan |
| BS WQD | Black Sea Water Quality Database |
| CIS | Commonwealth of Independent States |
| COCONET | Towards COast to COast NETworks of marine protected areas - from the shore to the high and deep sea, coupled with sea-based wind energy potential - EU FP project |
| DG | Directorate General |
| DOA | Description of Action |
| DQC | Data Quality Control |
| EC | European Commission |
| EEA | European Environment Agency |
| EEZ | Exclusive Economic Zone |
| EMODNET | European Marine Observation and Data Network project |
| ENP | European Neighborhood Policy |
| EPIRB | Environmental Protection of International River Basins project |
| EU | European Union |
| EUWI+ | European Union Water Initiative Plus for the Eastern Partnership (EU funded project for Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine |
| GE | Georgia |
| GEF | Global Environment Facility |
| ICPDR | International Commission for the Protection of the Danube River |
| ICZM | Integrated Coastal Zone Management |
| JOSS | Joint Open Sea Survey |
| MENR | Ministry of Ecology and Natural Resources of Ukraine |
| MEPA | Ministry of Environment Protection and Agriculture of Georgia |
| MNRE | Ministry of Natural Resources and Environment of the Russian Federation |
| MISIS | MSFD Guiding Improvements in the Black Sea Integrated Monitoring System project |
| MONINFO | Monitoring and Information Systems for Reducing Oil Pollution (EU research project) |
| MSFD | EU Marine Strategy Framework Directive |
| N-BSIMAP | National Black Sea Integrated Environmental Monitoring and Assessment Programme |
| NGO | Non-governmental organisation |
| NPMS | National Pilot Monitoring Studies |
| QA/QC | Quality Assurance / Quality Control |
| PA | Project Activity |
| PERSEUS | Protecting European Seas and Borders through the Intelligent Use of Surveillance (EU FP project) |
| RBEC | Regional Bureau for Europe and the CIS (Commonwealth of Independent States) |
| RF | Russian Federation |
| SC | Steering Committee |
| SeaDataNet | Pan-European Infrastructure for ocean and marine data management |

| | |
|---|---|
| SEIS | Towards a Shared Environmental Information System (EEA regional programme) |
| SOP | Standard Operating Procedure |
| ToR | Terms of Reference |
| UA | Ukraine |
| UNDP | United Nations Development Programme |
| WISE | EEA Water Information System for Europe |
| WFD | EU Water Framework Directive |

# 1 Executive Summary

The Black Sea is one of the most vulnerable regional seas in the world given its limited exchange of water with the open oceans and the large input of pollution and pressures placed on it from the surrounding landmass of continental Europe. The Convention on the Protection of the Black Sea against Pollution (Bucharest Convention) addresses these problems through enhanced cooperation among its signatories, and the development of **an effective monitoring network is considered a high priority**. In order to help address the problems facing the Black Sea and effectively implement the Bucharest Convention, the European Union (EU) has provided support to specific activities on the ground. The Project "Improving Environmental Monitoring in the Black Sea" (EMBLAS) is one of such activities, which is being implemented in three phases (EMBLAS-I: 1 January 2013 – 31 March 2015, EMBLAS-II: 1 April 2014 and has ended 31 May 2018 and EMBLAS-Plus: 5 March 2018- 30 September 2020).[1]

The main beneficiaries are the organisations responsible for water management and protection of the marine environment in the countries:

- Georgia: Ministry of Environmental Protection and Agriculture [2]
- Russian Federation: Ministry of Natural Resources and Environment
- Ukraine: Ministry of Ecology and Natural Resources

EMBLAS-II was delayed commencement from 1 January 2014 to its actual start of activities in summer 2015 (Inception Workshop July 2015). Consequently, the project was granted a no cost extension to 31 May 2018, to catch-up with the delay caused by the DoA revision and to consolidate the project results. The project further experienced severe challenges associated with unfavourable exchange rate between the grant currency, Euro, and project execution currency, USD. This resulted in a shortfall of 14% of the budget to be accommodated for in the last two years of operation.

The project has been implemented by UNDP in cooperation with seven partner organizations – national scientific institutions from the project beneficiary countries, as well as in coordination with The Commission on the Protection of the Black Sea Against Pollution.

The EMBLAS-II specific objectives were as follows:

(i) improve availability and quality of Black Sea environmental data in line with needs outlined in the EU Marine Strategy Framework Directive (MSFD) and the Black Sea SAP (2009);
(ii) improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II[3] recommendations on capacity building.

EMBLAS-Plus was designed to build upon the achievements of the previous phases, and specifically:

(i) Improve availability and sharing of marine environmental data from the national and joint regional monitoring programmes aligned with the MSFD and WFD principles and the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP);
(ii) Support joint actions to reduce river and marine litter in the Black Sea basin;
(iii) Raise awareness on the key environmental issues and increase public involvement in the protection of the Black Sea.

[1] EMBLAS-Plus has a formal start on 5 March 2018, duration and has a 30 months implementation period, with a 6 month reporting period. This is specified in the contract between EC and UNDP.
[2] Former Ministry of Environment and Natural Resources Protection
[3] Produced by EMBLAS-I, providing analysis of achievements and gaps in the field of Black Sea monitoring/data collection and assessments.

This evaluation comes is a result of the Final Steering Committee (October 2018) which recommended a brief overall evaluation of the EMBLAS-II results/lessons learned be conducted to provide insight and recommendations into the workplan of a follow-up project phase. The evaluation is based on a desk review of project materials and documents, and interviews with key stakeholders and beneficiaries of the project.

## Summary of Results

The project, for the most part, achieved its intended outcomes through 4 pieces of national policy harmonizing with EU standards; the testing of 3 national monitoring programmes; improved Black Sea environmental data with a updated data-base, entry methods and new data entries; training and workshops to increased capacity related to marine environmental monitoring in relevant institutions; and raising public awareness through and extensive and successful public campaign.

The project was designed with a high degree of stakeholder input, and is of great relevance to the countries in assisting them to improve their reporting requirements under the Convention for the Protection of the Black Sea from Pollution, as well as countries to develop the capacity to report under the EU Marine Strategic Framework Directive and the Water Framework Directive.

During the course of the project several significant policy outcomes were realized including:

i. "Delineation of transitional and coastal water bodies of Ukraine and Georgia";
ii. "Road Map for MSFD Implementation" and "Plan for Initial Assessment" for Ukraine; and
iii. "Economic Assessments of monitoring programs" for all three countries;

Additionally, one of the most important legacies of the project was its facilitation in the signing of "**Memorandum of Understanding between** the Ministry of Environment and Natural Resources Protection of Georgia and the Ministry of Ecology and Natural Resources of Ukraine **on cooperation in the field of environmental protection of the Black Sea and its catchment**", during the 4th High-level Stakeholder Conference on Blue Economy in the Black Sea, on 15 September 2017.

The bulk of all the intended outputs were realized, and only moderately compromised, due to the scaling back of activities due to the shortfall in funds associated with the poor exchange rate between the Euro and US dollar, and the delayed initiation associated with DOA revisions. Indeed, in most areas targets were exceeded despite the scaling back in activities. For example:

i. although the number of survey days in 2017 had to be reduced due to less funds, a total of 202,000 new data entries were made on the Black Sea Information System (BSIS), exceeding the target of 140,000.
ii. 8 descriptors specified in the EU Marine Strategy Framework Directive were reported on instead of a targeted 7.
iii. 9 organizations employed jointly agreed data collection templates (target was 7);
iv. 18 experts able to apply modern / novel monitoring techniques (target was 14).

The web-based Black Sea Water Quality Database (BS WQD) is updated and operational with a portal for data retrieval and accessible to the project partners. To support harmonization of data, 25 Standard Operational Procedures for sample collection have been established, 2 workshops on harmonization were conducted with 52 participants (25 of whom were women).

The Joint Black Sea Surveys – JBSS (containing open sea survey and national surveys) were conducted in 2016 and 2017 involving one Ukrainian-Georgian cruise and one Russian cruise, with new methods utilized for surveying and results input into the BS WQD. Long-term National monitoring programs were established in all three countries covering 12 sites and ran for 12 months in order to provide input for the National Black Sea Integrated Environmental Monitoring and Assessment Programmes (N-BSIMAPs).

Project visibility was developed well with a website, facebook page, a short video, and several high-level press conferences, and the project team presented at international conferences including the UN Ocean Conference in June 2017 and Black Sea Stakeholder Conference on Blue Economy in September 2017.

And a highly effective public engagement program was implemented, including active Black Sea Beach Clean Days in 2016 and 2017, engaging schools (over 3000 students), creating a competition to become a "Guardian Angel", and the development of a citizen-science phone app called "Black Sea SaveBook". These efforts all contributed to exceeding targeted expectations. Some of the creative materials included a series of educational infographics developed with the Cousteau Society, brochures, and even pins for "Angel Wings" based on the rare *Barnea candida* mollusk.

The project was implemented and executed well, with a high degree of stakeholder involvement in decision making through an effective Steering Committee and good levels of communication. Team and UNDP were highly adaptive in addressing several large challenges which threatened the ability of the project to achieve its intended outputs. In particular, the political events in the Ukraine, beginning in February created a need to readdress the Description of Action (DoA) for project, which was accomplished by the Inception Meeting in July 2015. An unforeseen drop in the value of the Euro relative to the USD in 2016 and 2017 resulted in approximately 14% less funds. The project team and Steering Committee were able to scale back on several activities and outputs without compromising the impacts for the project. For example, shortening the cruise in 2017 from 20 days to 12, conducting less analysis of samples, and forgoing a final conference with scientific presentations.

The project was also able to secure in-kind contributions from a number of institutes assisting with their expertise in sample analysis and logistics including: Nanjing University, China; University of Florence, Italy; EC Joint Research Centre, Italy; National Institute for Marine Research and Development "Grigore Antipa", Romania; and the Environmental Institute of Slovakia.

Finally, the foundations further developed under EMBLAS-II will be expanded upon under EMBLAS-Plus with formal start in March 2018 and will be finalized in September 2020. The lessons learned and strategic logic of EMBLAS-II are being applied to EMBLAS-Plus programming and planning.

The overall performance rating for EMBLAS II is as follows:

| Performance Criteria for Rating | | | |
|---|---|---|---|
| **1. Monitoring and Evaluation** | *rating* | **2. IA& EA Execution** | *rating* |
| M&E design at entry | MS | Quality of UNDP Implementation | HS |
| M&E Plan Implementation | S | Quality of Execution - Executing Agency | |
| Overall quality of M&E | S | Overall quality of Implementation/Execution | HS |
| **3. Assessment of Outcomes** | **rating** | **4. Sustainability** | **rating** |
| Relevance | R | Financial resources: | ML |
| Effectiveness | S | Socio-political: | L |
| Efficiency | HS | Institutional framework and governance: | L |
| Overall Project Outcome Rating | S | Environmental: | na |
| | | Overall likelihood of sustainability: | L |
| **5. Impact** | **rating** | | |
| | | | |
| Overall impact | S | | |

HS – highly satisfactory, MS – medium satisfactory, S – satisfactory, R – relevant, ML medium likely, L - likely

## Lessons Learned from EMBLAS II

The following lessons learned from EMBLASS II are based on those reported on in the Final Report as well as the observations of the author:

1. Time is needed to adequately operationalize a project and should be included into project planning as such. In the case of EMBLAS II this period was approximately 3 months.
2. Time is needed to consolidate information at the end of project and should be publicized and delivered thorough a final conference. In the case of EMBLAS II no final conference was conducted and this was missed by stakeholders. There is an opportunity to do this under EMBLAS-Plus.
3. Linking the project onto clearly defined national and regional commitments and interests will help ensure stakeholder engagement and commitment. In the case of EMBLAS II it was fulfilling obligations under the Bucharest Convention and in addressing requirements for adhering to monitoring capabilities under EU MSFD and WFD.
4. Partnering with institutions which already have mandates for monitoring will help ensure sustainability of the capacity generated by the project.
5. The project benefited from developing cooperation with existing projects, and incorporating international scientists in activities (for example having 2 BENTHOX scientists participate in the joint cruise 2017).
6. Exchange rates can have a significant negative effect on project budgets, and mitigation measures should be incorporated in future projects.
7. Involvement of international experts and scientific institutions has been beneficial and facilitated the transfer of experience from the EU member states, in particular for the practical laboratory analytical work, up-to date and novel methodologies in water quality monitoring;
8. The public events organized within the Monitoring Surveys (with national media involvement), education campaigns, the Black Sea Clean Beach Days and the development of the mobile phone application “Black Sea Save Book” have confirmed importance of visibility actions for increasing awareness and active public involvement in the environmental protection of the Black Sea.

## Recommendations for EMBLAS-Plus

1. **Build momentum for cooperation and trust by continuing to create partnerships and linkages with other projects.** While one of the key goals of EMBLAS is to support the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP), the project should emphasize development of synergies with existing and potential projects where benefit sharing can occur. This is important as the greater inter-relationships there are with other projects and other nations in the region the greater the possibility to ensure ongoing information and data exchange for environmental protection in the Black Sea. For example, the Exit Strategy promoted coordination between EMBLAS-Plus and the ENI CBC “Black Sea Basin Joint Operational Programme 2014-2020”. It will be particularly important to link with projects that include Black Sea nations, other than the key beneficiaries, such as Turkey and Romania, to help create greater momentum for cooperation in the region. To this end, a review of projects, and “project linkage” memo or note should be developed and reviewed by the Steering Committee within the first year.
2. **Emphasize raising public awareness as a means of building knowledge and maintaining political will**. EMBLAS II did a very good job at building public awareness in the region regarding

the protection of the Black Sea and pollution. It will be important to increase the effort associated with this under EMBLAS-Plus.

   i. Upgrading the "Black Sea SaveBook" to be able to have multiple experts address questions based level of knowledge in a "wiki" semi-open format. For example, an active user could be invited to respond to questions within a certain range of knowledge, otherwise more knowledge experts can be invited. Identify the institution that will sustain the SaveBook early in the project so that they operate it during the course of the project and do not just get it handed over to them at the end. Consider requesting an academic institution to take it over.
   ii. Consider establishing the Black Sea Clean Beach Day earlier in the year (late September) to involve more people with better weather, create collection competitions, awards, or self-made funny videos (oddest piece of litter), etc. that can be incorporated into the Black Sea Day ceremonies on October 31.
   iii. Place greater focus on "sharing data with other marine information platforms" explore the possibility to link with other international groups with high visibility platforms, and take advantage of info-graphics and visualization tools. For example linking with IUCN's marine visualization tools being developed under LME:LEARN;

3. **Conduct a short study on the economic valuation/importance of the environment in the Black Sea, particularly for tourism and fisheries.** Either through linking with other projects, or developing a standalone product, a policy brief on the economic benefits of the environment would be useful to enhance political action at the national and regional levels. If, such a study cannot be accomplished within the timeframe of EMBLAS-Plus then the foundations for such a study should be laid for future work. Such a study would help increase involvement and awareness from line ministries associated with the economic development which would also enhance developing political will amongst a broader base.

4. Improve information and knowledge transfer both within the region and outside the region, to support functionality and usability of the BSIS and BS Water Quality Data Base –

   i. As per the Exit Strategy of EMBLAS-II[4], develop an agreement for the long-term maintenance of the database, and its interaction with the Black Sea Information System under EMBLAS-Plus;
   ii. Consider allowing public and academic access to the BSIS, or at least certain levels of information it contains; and,
   iii. Sharing data with other marine information platforms.

5. Activity and deliverables planning should take into account a start-up period for the project to become operational (3 months) as well as an information consolidation period at the end of the project (3 months). Also, project planning should include prioritization of the project activities at an early stage of the project implementation to ensure that unforeseen events do not undermine the overall project outcomes.

6. To mitigate the effect of altering exchange rates explore:

   i. having the entire committed grant exchanged into USD and held in a special donor's account, or placed in escrow to be released as per donor prescription;
   ii. Including an assessment of "currency exchange risk" under the risk management strategy;

[4] Annex 16 of the EMBLAS (2018) Final Report 1 April 2014- 1 May 2018 "Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II)", 29 November 2018

iii. allowing sufficient reserve in the budget planning, for example agreeing to 5% contingency amount that can be held back until requested;
iv. Provide for some flexibility within project planning to alter outputs that would not undermine the project outcomes (for example, ensure outcomes are not dependent upon single outputs) - Active adaptive planning should be adopted where by details of activities are committed to depending on the amount received per tranche;
v. Consider suggesting that the UNDP develop an "exchange contingency fund" to help address shortfalls – this could conceivably be contributed to by projects that have benefited from exchange rate fluctuations.

7. With the "call for partners" and "call for proposals" ensure that one of the criteria is the "commitment of institutions to sustain the activities post EMBLAS-Plus" as well as overall sustainability of pilot local activities.
8. Involvement of women in the project implementation should be further strengthened, in particularly in the context of the planned Call for proposals, which will be targeting local communities, NGOs/CSOS and general public.

# 2 Introduction

This evaluation comes is a result of the Final Steering Committee Meeting (October 2018) which recommended a brief overall evaluation of the EMBLAS-II results/lessons learned be conducted to provide insight and recommendations into the workplan of a follow-up project phase (EMBLAS-Plus).

EMBLAS-II is the 2nd part of the joint initiative of EU and UNDP in the Black Sea Region, in the frame of the ENPI East Regional Programme (Strategy Paper 2007-20131), which identifies water management and environmental protection as two of its priorities.

The Project is financed by the European Union and co-financed by UNDP with total budget of EUR 2,723,800 (estimated at US$2,832,421.163).

The Project implementation started on 1 April 2014 and has ended 31 May 2018, thus having duration of 50 months (including 8 months of no cost extension approved by EC, from October 2017 to May 2018). The project delayed implementation from its initial start date of 1 January due to political developments in Ukraine, that had also caused delays in the implementation of the Phase-I. The Ukrainian delegation requested to revise the Description of the Action (DoA), to take into account the recent developments in the country and in the region, to consider new national priorities, related to the signing the EU Association Agreement by Ukraine and Georgia. After several revisions, the DoA was accepted at the Inception Meeting- Steering Committee Meeting in July 2015.

The project beneficiary countries are Georgia (GE), Russian Federation (RF), and Ukraine (UA). The project was implemented and executed by UNDP, through DIM[5], in cooperation with seven partner organizations – national scientific institutions from the project beneficiary countries, as well as in coordination with The Commission on the Protection of the Black Sea Against Pollution (Black Sea Commission) and its Permanent Secretariat.

EMBLAS-Plus is built on the results and conclusions of previous projects in the Black Sea and will ensure complementarities and synergy with activities under relevant actions in the region. It has a total budget of 1,604,738 EUR (1,827, 315 USD) and is supported by the EU with 1,770,380 EUR

[5] Direct Implementation Modality

(US$1,554,738) and in-kind from the UNDP of 50,000 EUR (US$ 56,935). It is expected to run from 5 March 2018 to March 2020.

# 3 Project description and development context

The Black Sea suffers from high levels of discharges from the surrounding land masses, as well as pressures on its resources from fishing, tourism and transport. Being an enclosed sea, there is little exchange with the Mediterranean (itself a semi enclosed sea) and as a consequence hydrogen sulphide is present in the entire lower layer of the Black Sea. In addition to nutrient enrichment and waste being discharged from the littoral states, an estimate 30% of pollutants originate countries upstream through the Danube. The four priority trans-boundary problems of the Black Sea - eutrophication/nutrient enrichment, changes in marine living resources, chemical pollution (including oil), and biodiversity/habitat changes, including alien species introduction - as well as the underlying root causes like industrial activities, agriculture, domestic wastewater, sea transport (oil spills, ballast water), and coastal zone degradation (urbanization, tourism) are strongly interlinked.

To address these issues the littoral states signed the Convention on the Protection of the Black Sea against Pollution (Bucharest Convention)[6]. In 2009, the Conference of Contracting Parties adopted the Land-Based Sources and Activities Protocol and the 2009 Black Sea Strategic Action Plan. Within this framework, the **development/improvement of monitoring programmes (national and regional) is considered to be a management target of high priority**.

Further coordination in policies and legislation is a common interest to all the Black Sea countries, and in particularly the littoral EU Member States,[7] who are also contracting parties to the Bucharest Convention and members of the Black Sea Commission (BSC); and are working to apply EU legislation, notably the EU Water Framework Directive (WFD) and the EU Marine Strategy Framework Directive (MSFD).

Funding for the EMBLAS phases comes from the EU. The European Neighborhood Policy (ENP) provides a framework for closer bilateral relations between the EU and its neighboring countries. Cooperation between the EU and ENPI East Countries in the field of the environment and water has intensified and currently encompasses a structured political process engaging all countries as key players in tackling the increasing economic, environmental and security challenges as well as the implementation of concrete projects.

In order to help its Eastern neighbors to improve the protection of the Black Sea environment, the EU has provided support to specific activities on the ground. The Project "Improving Environmental Monitoring in the Black Sea" (EMBLAS) is one of such activities. Its second phase (EMBLAS-II project) has further contributed towards addressing the overall need for support in the protection and restoration of environmental quality and sustainability of the Black Sea Basin.

Within the context of the ENPI East Regional Programme (Strategy Paper 2007-2013)[8] EMBLAS-II is designed to address the national priorities of improving environmental health of the Black Sea and its surrounding population through the improvement of monitoring, development of data bases, and increasing awareness at the political and public levels.

[6] http://www.blacksea-commission.org/_convention.asp
[7] Bulgaria and Romania
[8] http://ec.europa.eu/europeaid/where/neighbourhood/regional-cooperation/enpi-east/index_en.htm

The EMBLAS-II specific objectives are as follows:

i. improve availability and quality of Black Sea environmental data in line with needs outlined in the EU Marine Strategy Framework Directive (MSFD) and the Black Sea SAP (2009)[9];

ii. improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II4 recommendations on capacity building.

Following the EC Implementing Decision on the ENI East Regional Action Programme 2017 (27 November 2017)[10] a follow-up phase of the project has been designed: EMBLAS-Plus, with the following objectives:

i. Improve availability and sharing of marine environmental data from the national and joint regional monitoring programmes aligned with the MSFD and WFD principles and the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP);

ii. Support joint actions to reduce river and marine litter in the Black Sea basin;

iii. Raise awareness on the key environmental issues and increase public involvement in the protection of the Black Sea.

# 4 Evaluation scope and objectives, approach and methods

The objective of this Evaluation is to:

- review and assess the EMBLAS-II project (results, efficiency, stakeholder involvement, sustainability) in relation to the stated project objectives
- produce recommendations for the next phase of the already ongoing EMBLAS-Plus project, activities of which are mostly building –up on the results of the EMBLAS-II phase.

The results of the evaluation will be considered for further planning of the EMBLAS-Plus project and where relevant incorporated into the project workplan and inception report.

The Terminal Evaluation is conducted based on the UNDP guidelines for evaluations[11] and emphasizes assessment of the achievements of the project EMBLAS-II, measured against planned outputs set forth in the Project Document and the assessment of features related to the process of achieving those outputs, as well as the impacts the project. The evaluation also reviewed the planning & design of the follow-up phase (EMBLAS-Plus) and its linkages to the previous phase (as part of the assessment of the Project Design).

The evaluation was carried out primarily as a desk review, as per the TOR (Annex A); however some interviews were also conducted despite the limited time frame for the evaluation (Annex C). All significant sources of information, such as the Project document, Final Project report, Scientific Reports, websites that were used appear in Annex D.

[9] http://www.blacksea-commission.org/_bssap2009.asp
[10] See Annex 7 of the EU (2017) COMMISSION IMPLEMENTING DECISION of 27.11.2017 on the ENI East Regional Action Programme 2017 Part 2 Available at https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/eni_2017_c20177963_regional_action_programme_part_2.pdf
[11] UNDP Guidelines for Evaluation 2018 - http://web.undp.org/evaluation/guideline/index.shtml

# 5 Findings

## 5.1 Project Design

**Strategic design and Framework**

The EMBLAS-II project strategy and design is effective in building upon the previous success of EMBLAS I, and focussing on i) improving the availability and quality of Black Sea environmental data with ii) improving partner countries' ability to perform marine environmental monitoring, both at a national level, but also importantly at a regional level. The regional level capacity is critical to help build transparency regarding data and monitoring for decisions and consequently, the effort placed in training and capacity development, particularly under the rubric of harmonization is well developed.

EMBLAS-II was designed and delivered around seven inter-related activities:

1. Support at the implementation of countries' obligations under the Bucharest and other related Conventions and Agreements.
2. National Pilot Monitoring Studies (NPMS) - Development and implementation of NPMS for testing and harmonisation of developed by EMBLAS-I drafts of cost-effective National Black Sea Integrated Monitoring and Assessment Programmes (N-BSIMAPs) in accordance with reporting obligations under the WFD, MSFD and BSIMAP.
3. Large scale implementation of training and intercomparison programmes on monitoring methods and quality assurance adhering to the ISO 17025 standard.
4. Joint Open Sea Surveys (JOSS) - Implementation of the Joint Black Sea Surveys methodology along the lines of the MSFD, WFD and BSIMAP.
5. Upgrade and operation of the web-based Black Sea Water Quality Database.
6. Dissemination of knowledge and best practices, public awareness and visibility.
7. Management and coordination of the project.

The project addresses political level priorities regionally through activity #1 and nationally through activities #1 and #2. It addresses technical interests in terms of developing national level programs (#2), building capacity needs (#3), obtaining data and reporting (#4) and sharing data (#5). It recognized importance of building up public awareness and action around the Black Sea (#6). In doing so, EMBLAS-II was designed to meet the different interests of stakeholders in a realistic and functional way.

The EMBLAS-II Results and Resources Framework (Annex F), as developed in the Inception Report,[12] illustrates sound causal relationships between overall objectives, intended outcomes of the project, and project deliverables or outputs to achieve those outcomes. The project activities are supportive of one another. The indicators, for the most part are SMART compatible and can be verified through documents, web based information and interviews.

The EMBLAS-Plus project has an equally well developed strategy underlying it and has incorporated many of the lessons learned from its predecessors. Its primary objective is to "Improve availability and sharing of marine environmental data from the national and joint regional monitoring programmes aligned with the MSFD and WFD principles and the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP)" which is directly following on from the outcomes of

[12] EMBLAS (2015) Inception Report Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II), July 2015. Istanbul, Turkey

EMBLAS-II. It has, however, emphasized two additional objectives which are: (ii) Support joint actions to reduce river and marine litter in the Black Sea basin; and (iii) Raise awareness on the key environmental issues and increase public involvement in the protection of the Black Sea. The need for the support for actions regarding litter is indicated as one of the priorities of the EC ENI CBC Joint Operational Programme Black Sea Basin 2014-2020[13]: "Promote common awareness-raising and joint actions to reduce river and marine litter. It is recognized that litter and marine plastics need to be addressed with urgency; and the stand alone objective of raising public awareness emphasizes the important role that the public and citizen science may play in addressing the environmental issues plaguing the Black Sea.

The approach to describing the relationship between outputs and outcomes in EMBLAS-Plus builds upon the experiences developed under EMBLAS-II. The Results Framework (Annex G) follows a logic of objectives, outcomes and specific outputs, each with relevant indicators, with targets where possible. The indicators generally adhere to SMART criteria, for example the output indicators for "Revised national and regional monitoring programmes prepared / implemented" include:

- "number of SOP manuals";
- "number of national and regional surveys";
- "number of institutions participating"; and
- "number of experts (broken down into men and women) participating".

Each indicators, where possible, have annual and overall targets for the project.

**Project Partners, stakeholders and other projects.**

The EMBLAS-II Project Document, and subsequent Inception report, have identified viable and realistic working partners through national research institutions. The responsible parties (partners) had their roles defined at the inception meeting,[14] and were all entities in charge of the Black Sea monitoring for their nations. They have necessary expertise to perform the marine environmental monitoring and they are mandated to provide officially the data to the Black Sea Water Quality Database, which is the part of the Black Sea Information Management and Assessment Program of the Black Sea Commission. They were therefore chosen to ensure sustainability of any training and knowledge that would be developed throughout the course of the EMBLAS-II. The project design also envisions developing synergies with other projects and anticipated collaboration, for example with regionally relevant EU-funded projects APENA, EPIRB and EUWI+, or the Belgian funded BENTHOX.

In EMBLAS-Plus direct project partners have not been identified, but rather are to be selected following a "call for proposals" scheme which is in line with the Commission Implementing Decision on the ENI East Regional Action Programme 2017.[15] The first call for proposals on "environmental protection and marine environmental monitoring" was released on Feb 5th2019, to identify the project partners. There is thus no guarantee that EMBLAS-Plus will have the same partners as in EMBLAS-II, however it is very likely that the institutions involved in EMBLAS-II will apply. Additional calls for proposals are envisaged, for historical data collection, scientific assessments, as well as for the involvement of local communities and NGOs in pilot projects aimed at marine & beach litter reduction.

[13] http://blacksea-cbc.net/wp-content/uploads/2015/12/ENI-CBC-Black-Sea-Basin-JOP-final.docx
[14] EMBLAS (2015) Inception Report Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II), July 2015. Istanbul, Turkey
[15] EMBLAS (2017) Project Document for "Improving Environmental Monitoring in the Black Sea – Selected Measures" (EMBLAS-Plus). December 2018

EMBLAS-Plus has recognized the importance of further developing collaboration with other projects and has identified several in the Project Document including:

- Implementation of the Shared Environmental Information System (SEIS) principles and practices in the ENP East region (2016-2020), which is a regional programme implemented by the European Environment Agency (EEA) to improve the knowledge base for environmental policy;
- Initiatives such as the European Marine Observation and Data Network (EMODnet), SeaDataNet, WISE-Marine (EEA), and Information Platform for Chemical Monitoring (IPCHeM);
- The already mentioned MSFD Guiding Improvements in the Black Sea Integrated System (MISIS) project (2012-2014), in relation to which discussions were held with the participating countries to include resulting data in the Black Sea Water Quality Database.

**Risks and Assumptions**

Section 8 of the EMBLAS-II deals with the major risks envisioned for the project. Overall, the risks, assumptions, and commensurate mitigation measures are reasonable, which is likely why it was able to deal with the number of challenges it faced. Even as early as 2013 the Project had highlighted possible difficulties between Russia and the Ukraine, and suggested possible mitigation measures, such as "advising authorities well in advance regarding proposed surveys".

EMBLAS-Plus has addressed some of the risk challenges from the lessons learned in EMBLAS-II, including developing a mitigation measure around fluctuating exchange rates by suggesting "not to commit funds prior to receiving the second tranche of funding".[16] The Project document addresses new additional risks and concerns such as "Forthcoming Presidential and Parliamentarian elections in Ukraine, in 2019".

**Gender equity and mainstreaming**

The Project Document for EMBLAS II does not address gender equity within its design. Nevertheless, it did report on participants broken down on gender. EMBLAS-Plus has included this in its project design from the start with specific targets. It further notes that the project "is planning to make a situation analysis and make a set of recommendations how the involvement of women in the environmental protection could be strengthened".[17]

## 5.2 Project Implementation and Adaptive Management

Overall the Project Management and adaptive Management for was found to be "**Satisfactory**"

| Performance Criteria for Rating | |
|---|---|
| **2. IA& EA Execution** | *Rating* |
| Quality of UNDP Implementation | **Satisfactory to Highly Satisfactory** |
| Quality of Execution - Executing Agency | |
| Stakeholder Engagement | **Highly Satisfactory** |
| Overall quality of Implementation/Execution | **Highly Satisfactory** |

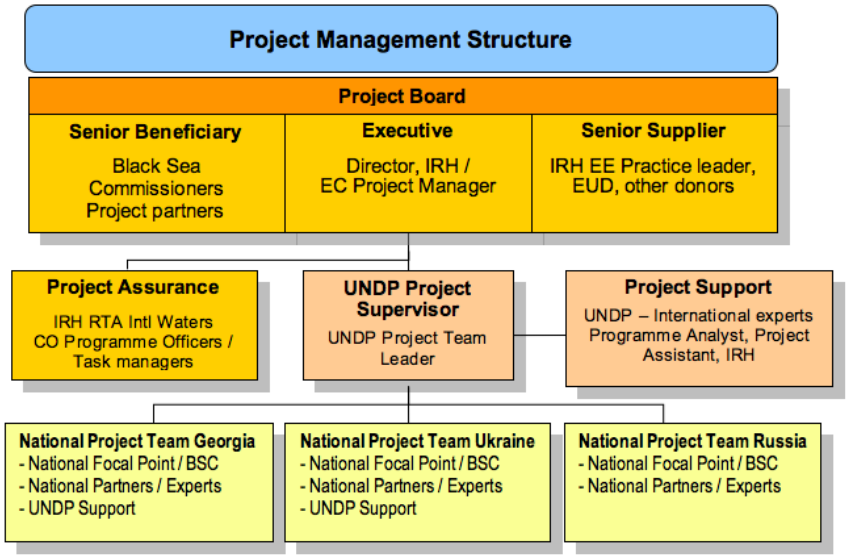
[16] EMBLAS (2017) Project Document for "Improving Environmental Monitoring in the Black Sea – Selected Measures" (EMBLAS-Plus). December 2018 – Risk and Mitigation Measures

[17] EMBLAS (2017) Project Document for "Improving Environmental Monitoring in the Black Sea – Selected Measures" (EMBLAS-Plus). December 2018 – Annex A Social and Environmental Screening Template.

### Implementation arrangements

Both EMBAS I & II were under Direct Implementation Modality (DIM) by UNDP. Figure 1 outlines the basic organizational architecture of EMBLAS II.

*Figure 1 Project Implementation Structure from Inception Report*




In EMBLAS-II the execution partners consisted of 7 national institutions and the BSC, which had a role of "Responsible Parties":

- Odessa National I.I. Mechnikov University (ONU) - Ukraine;
- Ukrainian Scientific Center of Ecology of the Sea (UkrSCES) – Odessa, Ukraine;
- Institute of Marine Biology (IMB) – Ukraine;
- Iv. Javakhishvili Tbilisi State University (TSU) – Georgia;
- National Environmental Agency "Black Sea Monitoring Center" (NEA) – Tbilisi, Georgia;
- State Oceanographic Institute (SOI) – Russian Federation;
- P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences (SIO-RAS) - Russian Federation;
- Permanent Secretariat of the Black Sea Commission (BSC PS) – international

Under EMBLAS-II, these partners were pre-defined in the Project Document and are national scientific institutions or universities funded by the state budget.[18]

EMBLAS-Plus does not have pre-defined partners, but rather, as requested by the EC, call for proposals has been launched to identify the project partners (responsible parties) to ensure a broader competitive selection of "responsible parties". The call went out 5th of February 2019 and was available through the project website, twitter and facebook.

The decision to not have pre-defined partners has meant that the initial stages of EMBLAS-Plus will be used to evaluate and secure institutions and experts in the collection and analysis of data.

[18] Note in the Project Document 14 national institutions were identified as project partners. Only half of these were actively engaged in EMBLAS-II.

### 5.2.1 Quality of UNDP Implementation and Execution:

The Quality of UNDP Implementation and Execution was considered to be "**Satisfactory** to **Highly Satisfactory**".

As the project was undertaken through DIM, the UNDP was responsible for both implementation and execution. EMBLAS-II was delayed commencement from 1 January 2014 to summer 2015 (Inception Workshop held in June 2015). Consequently, the project had a no cost extension for 8 months from 1 October 2017 to 31 May 2018, to i) catch-up with the delay caused by the DOA revision and ii) consolidate the project results. Following the delay, the project was well executed based on a review progress reports, meeting notes, and in interviews with several stakeholders.

One of the key elements of project management of note was the Project Management flexibility and adaptability to successfully complete EMBLAS-II with a severely restricted budget due to currency fluctuations (see Finance section below). This amounted to a shortfall of some 14% of the project budget (or approximately USD 350,000). The following are some of the actions taken by Project Management to address the shortfall:

- Decision to cut the research days from 20 days in 2016 to 12 days in 2017;
- Reduction in analytical samples sent to University of Athens for analysis;
- Fees of consultants were reduced were possible, including limiting input into several documents without undermining the quality of the product;
- Renegotiating partnership agreements with relevant partner institutions to reduce the scale of work;
- Cancelling development of beneficial, but non-essential, documents. For example, a planned consolidated document related to "methodologies for ecological assessment valuation", which were however applied for indicative assessment of the Black Sea status based on the data obtained from the field surveys;
- Having the next steering committee meeting conducted back-to-back with the Black Sea Commission meetings to reduce travel costs; and,
- The decision to not hold the final closing meeting where overall results would be presented and provide the inauguration of EMBLAS-Plus.

The project was also impacted by political developments in Ukraine, that had also caused delays in the implementation of the Phase-II, and resulted in a request to revise the Description of the Action (DoA) which would also to consider new national priorities, related to the signing the EU Association Agreement by Ukraine and Georgia. After several revisions, the DoA was accepted at the Inception Meeting- Steering Committee Meeting in July 2015. However, as noted in the Final Report, it proved to be a major challenge.

On the logistical front, the proposed research vessel for the 2016 survey was changed, and as a consequence, there was a time pressure to obtain national permissions to entre EEZs. It has been solved with the support from the national stakeholder. Issues were also faced with shipping of collected samples for analysis to laboratories, which resulted in measures being adopted to keep them on the survey vessel in a preserved form.

Despite the challenges of a delayed start, revised DoA, technical issues with survey vessels and samples, and a significant shortfall in project budget, the overall intended outcomes and impacts of the project were preserved.

**Project Financing**

No financial audit was conducted as part of this evaluation. The Financial summaries reviewed were supplied by UNDP Istanbul and met the criteria of associated with UNDP reporting. Costs based

annual reports were reviewed for 2014 to 2018 (20 November 2018). 100% of the budget was dispersed and accounted for.

The core funding for EMBLAS-II came from the EU which committed EUR 2,500,000 (this was estimated as USD 3,351,206 in 2013). During the course of the project the exchange rates shifted significantly (0.736 EUR/USD in 2014, 0.96 EUR/USD in 2016 0.844 EUR/USD in 2017). This caused an overall reduction in the available USD for the project. Actual expenditure was EUR 2,723,800 which was equivalent to USD 3,084,911.

Deviations from the projected budget: To address the shifting value of resources some budget lines were altered. The most significant shift was in the area of "travel" which was 14% higher than budgeted for. This was primarily due to costs associated with surveys in years 2 & 3 of the project when the exchange rate was particularly unfavourable.

It should be noted that the EU had agreed to make up the difference due to the exchange rate, however, this was not forthcoming during the EMBLAS-II project cycle and was to be added onto EMBLAS-Plus.[19]

Based on the highly shifting exchange rate the UNDP Project Team should be commended on having maintained their overall activities.

#### Co-financing

During the Project development there were commitments of co-financing UNDP in Georgia and Ukraine, estimated at USD 300,000.

During the course of the project there were several additional in-kind contributions made including:

- EC Joint Research Centre – Ispra, Italy – in-kind contribution for analyses and assessment of the pollution by organic chemicals and marine litter;
- the Nanjing University, China, with in-kind contribution with environmental DNA analyses and expert training;
- University of Florence, Italy - supporting the microplastics analyses;
- National Institute for Marine Research and Development "Grigore Antipa", Romania – supporting analyses of microbial communities and expert training; and,
- Environmental Institute Slovakia – supporting logistics of the surveys.

Moreover, understanding the financial shortfall, the national partner institutions continued to contribute, despite the necessary reduction in the scope of their contracts.

### 5.2.2 Stakeholder Engagement:

Stakeholder engagement, overall, was considered to be "**Highly Satisfactory**".

One of the key risks identified in the Project Document was the "non-involvement or lack of interest in parties" which was mitigated though continual involvement of project stakeholders, and in particular national project partners, both in the preparatory phase of the project[20] as well as throughout during Steering Committee meetings[21] and EMBLAS project team involvement in conferences and meetings including:

- General Assembly of SOLUTIONS project in October 2015, Stockholm;

[19] Personal communication with interviewees.
[20] Personal communication with interviewee.
[21] See steering Committee Meeting Minutes Annex 2 Final Report EMBLAS-II.

- Meeting of the Monitoring and Assessment Expert Group of the International Commission for the of the Danube River (ICPDR) in October 2015, Bratislava – discussions related to the harmonization of the ICPDR and the Black Sea Commission databases;
- The Black Sea Commission Meeting, October 2015, Istanbul - presentation of the EMBLAS-II key activities, among presentations from other projects like EMODNET and PERSEUS;
- PERSEUS Final Scientific Conference, 7-9 December 2015, Brussels;
- APENA Workshop in 13-14 September 2016 in Odessa;
- The Black Sea Commission Meeting, October 2016, Istanbul;
- The Black Sea Stakeholder Conference on Blue Economy 15 September 2017, Batumi, Georgia – project presentation;
- The Black Sea Commission Meeting, October 2017, Istanbul;
- 20th Ordinary Meeting of the ICPDR, 12-13 December 2017, Vienna, Austria – presentation of the project
- 9th International Black Sea Symposium, 21-22 March 2018, Athens, Greece – project presentation;
- DNAqua-Net workshop "Validation and reporting of single species e-DNA analyses", 26-27 March 2018, Innsbruck, Austria - presentation about the first results of e-DNA study in the Black Sea at http://dnaqua.net/

### Collaboration with other projects and institutions

During the EMBLAS-II project it appears efforts were made to engage with and collaborate with other initiatives in the region: cooperation was established with the EU funded **APENA** (Support to Ukraine in approximation of the EU environmental acquis), which provides support in transposing and implementation of the MSFD; cooperation with **BENTHOX**, funded by Belgian government that is targeted to the investigations of hypoxia on the Black Sea north-western shelf. Two experts have participated at the Surveys 2016[22] and 2017; cooperation established with the **EC Joint Research Centre** in relation to Joint Open Sea Surveys 2016 / 2017, specifically for assessment of the pollution by organic chemicals and marine litter monitoring; cooperation with the **National Institute for Marine Research and Development "Grigore Antipa",** Constanta, to analyse microbial communities in sediment samples collected during the surveys in 2016 and 2017; **Environmental Institute Slovakia** provided logistic support for surveys in 2016 and 2017; the **Nanjing University, China** supported environmental DNA analyses and expert training free of charge; **University of Florence, Italy** provided analyses of microplastics in sediment samples; **TÜBİTAK Marmara Research Center Environment and Cleaner Production Institute; Department of Laboratory, Measurement and Monitoring, Ministry of Environment and Urbanization** in Turkey participated in the chemistry inter-comparison studies. In the frame of the UNDP contracts for professional services, the project worked with the **Laboratory of the National University of Athens**, Greece ( analyses of EU WFD Priority Substances and screening of Black Sea Specific Pollutants in water, biota and sediments); **RECETOX Laboratory**, Masaryk University, Brno, Czech Republic (passive sampling of persistent organic pollutants (POPs) and emerging substances in seawater); and, **GeoEcoMar**, Romania, providing the Research Vessel for the surveys in 2016/2017.

Efforts were made to collaborate with other initiatives including: Consultations between the Project Team Leaders of **EPIRB** and EMBLAS were held to explore the possibilities of joint activities;

[22] (http://labos.ulg.ac.be/mast/projects/benthox/cruises/)

potential cooperation with **EUWI+**, in the area of data management and training; contacts were established with the **US EPA** regarding ecotoxicological analysis of the Black Sea samples; possible German Federal Environment Agency **(UBA)** and **NORMAN Association** for dealing with emerging substances in the environment.[23]

### Project profiling

The project maintained high visibility through its webpage; Project Facebook page: "Fans of the Black Sea"[24], national facebook page[25] (developed and administered at Tbilisi University)[26] publication of videos on You Tube;[27] attending conferences; amongst others.

### Public level Stakeholder engagement

Activity 6 was "The Dissemination of knowledge and best practices, public awareness and visibility". Under EMBLAS-II the activity excelled at raising visibility, building awareness, but also engaging stakeholders in creative ways:[28]

- Press-conferences were held;
- The creation of Black Sea Beach Clean Beach Days arranged in all three countries to bring officials, NGOs, schools and students together to clean beaches and build awareness about the environment;
- 'Environmental Sentinels' education campaigns and trainings organized in all countries;
- Campaigns, logos, promotional items;
- Creation of a "Black Sea SaveBook" game, allowing for the identification of specific species (mollusks, dolphins etc.) and developing a broad based "citizen science" platform was developed. By 2018 there were over 100 users and 1200 entries, 40% of which were from Russia; and,
- The Black Sea Guarding Angel campaign where children can do certain activities within the BS Savebook game to gain credits and become a "Guardian Angel" based on the Angel Wing (*Barnea candida*) mollusk.

### Political level Stakeholder Engagement

EMBLAS-II also organized high-level engagement with stakeholders through several press conferences:

- Two press-conferences organized during the Joint Black Sea Surveys 2016 in Odessa and Batumi, in May 2016 (media coverage: 48 UA / 21 GE);
- Two high level press-conferences/public events "How healthy is our Black Sea" organized in April and May 2017 in Ukraine and Georgia - presenting the finding of the Surveys 2016 (media coverage: 54 UA / 18 GE); and,
- Two press-conferences/events organized during the Joint Black Sea Surveys 2017 in Odessa and Batumi, in August and September 2017 (56 UA / 11 GE);

[23] It is anticipated that this connection will be advanced under EMBLAS-Plus.
[24] http://emblasproject.org/gallery/facebook-page-fans-of-the-black-sea-join-us
[25] http://emblasproject.org/ Which from Feb 2017 to Dec 2018 had 17,850 views by 6,836 visitors from 103 countries
[26] https://www.facebook.com/Project-Emblas-TSU-%E1%83%9E%E1%83%A0%E1%83%9D%E1%83%94%E1%83%A5%E1%83%A2%E1%83%98-%E1%83%94%E1%83%9B%E1%83%91%E1%83%9A%E1%83%90%E1%83%A1-%E1%83%98-%E1%83%97%E1%83%A1%E1%83%A3-467275276807098/
[27] for example see: https://www.youtube.com/watch?v=NGoih5WtX6w
[28] For a detailed list of activities section 3 of the Final Report.

One of the most important legacies of the project, was its facilitation in the signing of "**Memorandum of Understanding between** the Ministry of Environment and Natural Resources Protection of Georgia and the Ministry of Ecology and Natural Resources of Ukraine **on cooperation in the field of environmental protection of the Black Sea and its catchment**", during the 4th High-level Stakeholder Conference on Blue Economy in the Black Sea, on 15 September 2017.

## 5.3 Project-level Monitoring, Evaluation Systems and reporting:

| Performance Criteria for Rating | |
|---|---|
| **1. Monitoring and Evaluation** | ***Rating*** |
| M&E design at entry | **"Moderately Satisfactory"** |
| M&E Plan Implementation | **"Satisfactory"** |
| Overall quality of M&E | "**Satisfactory**". |

Section 6 of the Project Document outlines a detailed and effective monitoring and evaluation framework for EMBLAS-II. The M&E plan called for a "mid-term" and "final evaluation" to be conducted. As previously discussed the "Mid-term" evaluation was contained within the terminal evaluation of the EMBLAS I project. There was sufficient fund set aside for evaluation activities.[29]

The recommendations and results of which were integrated into the planning of the remainder of EMLAS-II illustrating a high degree of responsiveness from the Project Team. For example, one of the recommendations was to have EMBLAS-II extended as well as maintaining closer cooperation with BSC secretariat stemmed from the mid-term evaluation. The result was the project was extended from 1 October 2017 to 31 May 2018, and increased connection and training was conducted with UkrSCES, which is the Black Sea Activity centre and has been in charge of the development of the Black Sea Water Quality Database, which is storing all data collected during the monitoring cruises.

Other recommendations and actions included:

- Strengthening the technical expertise of management team from EMBLAS I, which was achieved through engaging more international experts with technical skills in EMBLAS-II
- To ensure quality for documents such as WQ/ GES Methodology, as well as on compliance indicators work. This was achieved through additional attention given to the docs of regional importance – scientific reports from surveys; as well as engaging specific international experts;
- Increased capacity building at the regional, national and local levels. This resulted in additional trainings and international experts visiting local labs;
- Improved knowledge management and communications of the results. This resulted in more emphasis on awareness building and the development of a communications strategy for 2016 and 2017 as seen in Annex 3 of the Final Report.
- The recommendation from the final SC meeting (October 2018) to include a "lessons learned and recommendations for EMBLAS-Plus in the terminal evaluation of EMBLAS-II", which is this current evaluation.

[29] USD 45,000 from Project Document and approved budget.

### Steering Committee

The steering committee was identified in the Project Document and confirmed in the Inception Report with an attached ToR project[30].

The steering committee consisted of:

- BSC Commissioners from Georgia, Russian Federation and Ukraine;
- European Commission, DG NEAR;
- UNDP (Istanbul Regional Hub; Georgia; Russian Federation; Ukraine);
- Project Management Team members - as the SC Secretariat, with observer status (without voting rights);
- Black Sea Commission Permanent Secretariat - Executive Director, with observer status (without voting rights);
- National Focal Points, with observer status (without voting rights).

There was no set time for Steering Committee meetings, which was **an oversight in the project M&E design**. Nevertheless, the project Steering Committee met 5 times during the course of the project:

- 1st SC meeting - Consultation meeting (November 2014, Istanbul);
- 2nd SC meeting (June 2015, Istanbul), back to back with the Inception Workshop;
- 3rd SC meeting (March 2016, Istanbul);
- 4th (Final) SC Meeting (February 2017, Tbilisi), back to back with the Technical Meeting for the Black Sea Surveys;
- Final SC meeting (October 2018), organized back to back with the Black Sea Commission meeting (at no costs for the project).

With respect to planning and progress monitoring and reporting the project anticipated:

- Inception report - which was delivered in July of 2015;
- Progress report on a 6-month basis (+ short internal quarterly reports);
- Final report including lessons learned;
- Exit strategy (As part of Annex 16 Final Report).

Four Project Progress reports were submitted, including the comprehensive Final Report and annexes.[31]

## 5.4 Project Results towards Outcomes

| Performance Criteria for Rating | |
|---|---|
| **3. Assessment of Outcomes** | **Rating** |
| Relevance | Relevant |
| Effectiveness | Satisfactory |
| Efficiency | Highly Satisfactory |
| Overall Project Outcome Rating | Satisfactory |

[30] See Inception Report, 2015
[31] All reports were submitted by UNDP.

### 5.4.1 Relevance:

The relevance of the project is considered **"Relevant"**

The project design on EMBLAS II followed on from its predecessor in supporting the countries' interest in developing and effective and efficient monitoring practices and improving upon environmental reporting and communication which are obligations under Article XV of the Bucharest Convention[32] as well as the requirements for Marine Strategy Framework Directive.[33] The development of monitoring programs and capacity is directly related to the key project objective: to ***improve the level of protection of the Black Sea environment***[34] which relates to both national and regional stated priorities. All the beneficiary countries engaged in the EMBLAS II and EMBLAS-Plus projects have ratified the Black Sea Convention.[35] Moreover, at the UN Ocean Conference in June 2017, the project has been registered as a "voluntary commitment for the SDG 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development)". The EMBLAS II project addresses UNDP Outcome 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded. The project's development of information and knowledge transfer or pollution control provides for a more sustainable resource base in the Black Sea in terms of tourism and fisheries.

In terms of specific UNDP regional goals, the *UNDP Regional Programme for Europe and the Commonwealth of Independent States the period 2014-2017* sought to contribute to development outcomes by innovative and issue-based cross-thematic programming and application of risk and knowledge management, capacity development, gender mainstreaming and partnership approaches.[36] The Midterm review of that project noted that "the project had contributed to improved environmental monitoring by preparatory action, consolidating information basis and delivering policy documents, moving closer to the achievement of the objective of improved protection of the Black Sea environment".[37]

The project built upon UNDPs 20 years of experience in the Black Sea, and the success of previous EMBLAS project, including the comparison of previous results and inter-calibrations from the region. The strategy design section above notes the substantial use of lessons learned from the previous phase in the Phase II develop. Moreover, key stakeholders were consulted during the development of the EMBLAS II, through its steering committee amongst others.

The projects are directly relevant to Ukraine, and Georgia, by contributing to the development and implementation of tools and guidelines for environmental monitoring (with focus on marine environment) to support meeting its international obligations and to apply EU Marine Strategy Framework Directive.

In terms of country ownership, one of the main project legacies was the "Memorandum of Understanding between the Ministry of Environment and Natural Resources Protection of Georgia and the Ministry of Ecology and Natural Resources of Ukraine on cooperation in the field of

[32] Convention on the Protection of the Black Sea Against Pollution, signed Bucharest, 21 April 1992.
[33] See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0056
[34] See Preamble to Convention on the Protection of the Black Sea Against Pollution, "Reaffirming their readiness to cooperate in the preservation of the marine environment of the Black Sea and the protection of its living resources against pollution".
[35] Georgia ratified 01 September 1993, entry into force 15 January 1994; Russian Federation ratified 16 November 1993, entry into force 15 January 1994; Ukraine ratified 14 April 1994, entry into force 14 April 1994.
[36] UNDP (2013). Regional programme document for Europe and the Commonwealth of Independent States, 2014-2017, Executive Board of the United Development Programme, the United Nations Population Fund and the United Nations Office for Project Services , 13 December 2013.
[37] Melikayan, L. and O. Krylova (2016). UNDP Regional Programme for Europe and the Commonwealth of Independent States (2014-2017): Midterm Outcome Evaluation. Istlanbul, United Nations Development Programme. 11 April 2016

environmental protection of the Black Sea and its catchment", signed on 15 September 2017. This underscores the importance of the activities and work achieved in terms of relevance and commitment from the beneficiaries.

While gender equity was not directly addressed in the EMBLAS II project strategy, the project was balanced in its participation, for example:

- Of the 90 national experts that took part in EMBLAS II, 46 (51%) were women.[38]
- Out of the 52 participants which took part in harmonization training workshops, 25 were women;[39] Overall, there were more women trained than men including scientists on novel methodologies – Environmental DNA (Maria Pogozheva visiting University of Nanjing) and metagenomic analyses (Maria Pavlovska, Oksana Savenko visiting Romanian institute NIMRD)[40]
- For some topics the leading scientists are women – Marine Litter (Maria Pogozheva) and Marine Mammals (Oksana Savenko);[41]
- Two women from the BENTHOX project participated in the cruises 2016 and 2017 and authored the chapter on Hypoxia;[42]
- Women participated in the joint cruises and national surveys conducted in 2016/2017.[43]
- In EMBLAS-Plus project, an element was added that is related to the assessment of the involvement of women in the environmental protection of the Black Sea: [44]
    - Special attention will be given to the involvement of women and young people under foreseen results #2 Joint monitoring and reduction of river and marine litter facilitated;
    - Women involvement is specifically address in Activity 3.1 Organizing educational/ public awareness events, linked also to Joint Black Sea Surveys and "Black Sea SaveBook" application and strengthen the role of women in the environmental protection;
    - Special attention to involvement of women and young scientist will be given under Activity 1.4 Capacity building on novel monitoring methods, quality assurance/quality control and use of the Black Sea Water Quality Database;.

### 5.4.2 Effectiveness

The effectiveness of the project was considered as "**Satisfactory**".

Overall the EMBLAS II project has achieved its intended outputs and activities, and in the case of building awareness, has expanding and surpassed targets originally intended in the Project Document.[45] Implementation of this project was partly linked to the activities of the Black Sea Commission and its Advisory Groups, including coordinating the reporting on indicators, Status of the Environment Report for the Black Sea (submitted for approval in October 2018).[46] The activities of data collection (surveys), collation and data management, development of data bases all help support countries meet their reporting commitments to implement the Bucharest Convention as well as ensuring support and activities for the project.

[38] List of national scientists involved.
[39] Workshop participant lists.
[40] Personal Communication PCU.
[41] Scientific reports and main chapters. Personal Communication with PCU.
[42] Personal Communication with PCU.
[43] See list of participants of the technical reports, Annex 9, EMBLAS II Final Report.
[44] EMBLAS Plus Project Document,
[45] While this section outlines the results achieved, the reader is referred to the EMBLAS II final report for a more detailed description of activities conducted.
[46] Not yet available on the Black Sea Commission website.

As shown in Table 1 the project was overall successful in reaching its output targets and consequent outcomes. More specifically the project exceeded targets for:

- developing policy documents to support harmonization on national legislation with EU standards;[47]
- data coverage descriptors specified in EU MSFD;[48]
- the number of new data entries in the Black Sea water quality database;[49]
- the number of organizations using jointly agreed data collection templates[50]
- the number of experts able to apply modern / novel monitoring techniques[51]
- number of pupils involved in the education campaigns on environmental sentinels and BS Clean Beach Days;[52] and,
- Number of people reached through communication and public outreach activities.[53]

Two sets of surveys were conducted in both 2016 and 2017 as part of data gathering and collaboration on the regional data base. In both seasons two cruises were conducted, one by Russia and the other by Ukraine and Georgia.[54]

National monitoring programs were established and run for 12 month periods in order to test and harmonize the drafts of cost-effective National Black Sea Integrated Environmental Monitoring and Assessment Programmes (N-BSIMAPs). The sites included 4 monitoring sites in Georgia; 2 monitoring sites in the Russian Federation; and 2 monitoring sites in the Ukraine.[55]

The project conducted its planned upgrading of the Black Sea Information System (BSIS) and BS WQD.[56] This included the development of standard entry sheets for digitization. The information portal is not accessible without a password, and no assessment of the extent and usability of the data base or any visualization tools have been done as part of this evaluation.

The project was also successful at fostering new policies including:

i. Delineation of water bodies for Ukraine and Georgia prepared, submitted to MENR UA and MEPA GE for consideration;
ii. Road map for MSFD Implementation and Plan for Initial Assessment prepared for Ukraine, submitted to MENR UA;
iii. Economic assessment for national monitoring;
iv. "Memorandum of Understanding between the Ministry of Environment and Natural Resources Protection of Georgia and the Ministry of Ecology and Natural Resources of Ukraine on cooperation in the field of environmental protection of the Black Sea and its catchment",[57] during the 4th High-level Stakeholder Conference on Blue Economy in the Black Sea, on 15 September.[58]

[47] Target -3 Achieved 4: Delineation of transitional and coastal water bodies of Ukraine and Georgia"; "Road Map for MSFD Implementation" (UA); "Plan for Initial Assessment" (UA); and "Economic Assessments of monitoring programs". See Final Report Annex.
[48] Target was improving coverage by 60%, the project achieved 78% - 8 out of 11 indicators.
[49] Target was 140,000, the project achieved 202,000 by 2018.
[50] Target was 7, the project had all 7 national institutions and 2 additional institutions using harmonized templates.
[51] Target was 14 and the project achieved 18. As seen from participant list from training.
[52] Target was 300 and the project achieved 3000.
[53] The target was 70,000 and the project achieved an estimated 250,000.
[54] EMBLAS (2016) National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, 2016, Final Scientific Report, December 2016 & EMBLAS (2018) National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, September 2017.
[55] EMBLAS (2018) 12-Months National Pilot Monitoring Studies in Georgia, Russian Federation and Ukraine, 2016-2017 DRAFT Scientific Report, September 2018
[56] http://blackseadb.org - however, it requires a password to entre.
[57] https://webgate.ec.europa.eu/maritimeforum/en/comment/reply/4048
[58] See Youtube signing ceremony. https://www.youtube.com/watch?v=7JxEbw5yRY4&feature=youtu.be

As noted in the section on implementation, the shortfall in the budget related to the exchange rate, reduced the extent of some activities, primarily data collection from the 2017 Joint Cruise, and the quantity of analysis conducted; however, it did not undermine the overall project execution or the ability to realize intended outputs. This in part was due to the level of partnerships which the UNDP had established with its partner institutes which were understanding regarding the financial revisions necessary to complete the project.[59] The flexibility and commitment of the Project management, including the voluntary reduction of the Project Management Advisor's salary.[60]

The project excelled in the area of public awareness building (Activity 6) and promoting joint data collection through two joint surveys (Activity 5). Furthermore, the development of the MOU between Ukraine and Georgia opens up opportunities for greater bi-lateral work.

The project was also able to introduce novel survey methodologies during the cruises, which previously had not been applied in the Black Sea. This was made possible with support from assistance from international experts and institutes including the EC Joint Research Centre, the Nanjing University (China), University of Florence (Italy); National Institute for Marine Research and Development "Grigore Antipa" (Romania); and Environmental Institute Slovakia.

Throughout the project there was good involvement and collaboration with direct stakeholders as well as the public (See section on stakeholder engagement).

For a more detailed assessment of the effectiveness in achieving project outputs the reader is referred to Annex H – the table of results from the Final Report.

[59] Personal communication with interviewee. 3rd Steering Committee Meeting Report.
[60] Personal communication with interviewee.

*Table 1 Results Summary Table for EMBLAS II*

| Objective | Indicator targets | Comments |
|---|---|---|
| Overall objective: To improve the level of protection of the Black Sea environment | 1. Quality and effectiveness of environmental monitoring improved | National and Regional Monitoring Programs prepared – in line with the MSFD/WFD principles (Joint Black Sea Surveys - JOSS and NPMS in 2016 and 2017) and implemented, the results can be used as an input for "Initial assessment" (prepared by UA / GE according to the EU Association Agreements) and as an input to the Status of Environment Report (prepared by BSC)<br>Harmonised methodologies for sample collection (5 SOPs for biology, 20 for chemistry) used by GE-RF-UA during the surveys,<br>Methodology for indicative GES applied during using the Surveys results |
| | 2. Effectiveness of environmental data management improved | The Black Sea Water Quality Database developed – data collection templates were agreed by the national experts and used during the monitoring surveys for collection of the results from analyses., |
| | 3. Ecosystem-based management (information/knowledge-based adaptive management) further developed and national approaches to environmental protection harmonised | Information on 8 MSFD Descriptors (out of 11) collected during the surveys 2016/2017, harmonised classification schemes were used for Water Quality / Good Environmental Status assessment (D1 Biodiversity (phytoplankton, zooplankton, macrozoobenthos, macrophytobenthos), D2 Eutrophication (TRIX, BEAST methods)) by the national experts. |
| | 4. Countries' obligations under the Bucharest Convention and other conventions more extensively implemented | National and Regional Monitoring Programs prepared – in line with the MSFD/WFD principles (Joint Black Sea Surveys - JOSS and NPMS in 2016 and 2017) and implemented, the results can be used as an input for "Initial assessment" (prepared by UA / GE according to the EU Association Agreements) and as an input to the Status of Environment Report (prepared by BSC<br>Methodology for indicative GES applied during using the Surveys results<br>Obligations under the Bucharest Convention and other conventions were strengthened through :1 Memorandum on cooperation in the field of environmental protection of the Black Sea and its catchment, signed between MENR of Ukraine and MEPA Georgia (15 September 2017), 2 a new Monitoring Programme adopted by Ukraine became operational as of January 2019 (based on the results of EMBLAS-II and APENA project work). |
| | 5. Public awareness in the field of environment protection enhanced | Public awareness on environment protection has been enhanced through awareness raising campaigns/actions organized in each country, e.g. a number of public events (Black Sea Clean Beach Day in each country in 2016 and 2017), education campaigns (one per country on Environmental Sentinels), linked with the use of the BS Save Book Game – mob. phone application, public events: the Black Sea Clean Beach Days in 2016 and 2017 in each country (GE-RF-UA), public events in GE and UA, linked with the start of the Surveys 2016 /2017 |

| Objective | Indicator targets | Comments |
|---|---|---|
| 1. to improve availability and quality of Black Sea environmental data in line with the MSFD and Black Sea Strategic Action Plan (2009) needs. | 1. Legal/policy framework of monitoring and data collection further developed (measured by relevant new pieces of legislation/policy produced and promoted for adoption) | A new "Procedure for the state water monitoring", aligned with the EU directives approved by the Ukrainian Cabinet of Ministers in Sept 2018The new Monitoring Programme is being prepared, and is to begin implementation in 2019 in Ukraine. |
| | 2. Institutional framework of BS monitoring/data collection improved and enhanced (measured by number of organisations officially recognised as participating in governmental monitoring programme/s) | All the project partners are recognized by their governments as responsible for providing monitoring data in compliance with the Bucharest Convention. |
| | 3. Amount of environmental data collated in national and regional databases increased by minimum 10% and 30%, respectively | Environmental data collected by countries during the surveys covers 8 of 11 MSFD descriptors and WFD Priority substances.<br>Modern methods used for sampling and analyses for the first time in the BS countries – large volume sampling, passive sampling, marine litter, microplastics, environmental DNA |
| | 4. Increase in temporal and spatial coverage of data collected to assess the Black Sea SoE | |
| | 5. Environmental data collected by the project beneficiary countries cover 60% of the MSFD list of GES indicators from an initial 35% | |
| | 6. Increased number of data providers | In addition to the national data providers, 7 international institutions were involved in the analyses of collected samples (Univ. of Athens, RECETOX, NIMRD, JRC, Univ. of Florence, Univ. of Nanjing) |
| | 7. Indicator-based reporting adopted by 3 countries out of 3 | *Indicator based reporting is becoming adopted in conjunction reporting requirements for MSFD.* |
| | 8. Inter-operability of the Black Sea WQD Database with other regional and European data management infrastructures established | Black Sea Water Quality Database compatible with other European data systems (EMODNET, IPCHEM, NORMAN) |
| | 9. Access to available data (data and metadata) | WQ Database accessible to authorised national organizations, more than 202,000 database entries |
| | 10. Comparability of data enhanced (measured by the common methodologies of sampling, sample processing and data management applied) | All countries used the SOPs and agreed Data collection templates during the surveys |
| | 11. Number of national cruises (outside the project) organised taking into consideration the methodologies and new parameters recommended by the project | The exact number is not known, but in 2018 there were 4-5 Ukranian surveys done on the Danube-BS area; an environmental assessment survey conducted in Sea of Asov; Georgia conducted fisheries assessment cruises; both Bulgaria and Romania conducted ocean surveys. |

| Objective | Indicator targets | Comments |
|---|---|---|
| | 12. Amount of data produced outside of the project to improve knowledge-based decision-making as motivated by the project | Historical environmental data available (from MISIS project surveys in BG-RO-TR) – agreed with BSC to be included in the BS WQD (foreseen in the next project phase). |
| | 13. Number of new projects inspired by the EMBLAS-II recommendations on further developments | New phase of the project designed: with overall focus on: i) further improvement of the environmental data availability; ii) joint actions for marine litter reduction; and iii) awareness raising on the BS protection. |
| 2. to improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II recommendations on capacity building | 1. National integrated monitoring programmes proposed, taking into consideration the MSFD principles | National Pilot Monitoring Studies – monitoring programs prepared in line with WFD/MSFD and implemented in cooperation with 7 national partners (NPMS 2016, 2017, 12 months monitoring program in GE-RF-UA).<br>Economic assessment of monitoring programs (MSFD compliant) prepared and provided to the countries |
| | 2. Common methodology for marine environmental assessment based on the principles and methodologies of the EU WFD and MSFD developed and submitted to national authorities for approval | Classification schemes for WQ/GES tested within the Surveys 2016/2017 |
| | 3. Ability to make use of harmonised SOPs, QA/QC and DQC manuals tested by means of questionnaires and field testing | Harmonised SOPs for biology (5) and chemistry (20) prepared and applied by partner organizations during the surveys<br>Indicator.<br>Three Intercomparison exercises carried out and evaluated within the surveys 2016/2017. |
| | 4. Laboratories' success rate in inter-comparison sampling exercise improved by 50% throughout the project cycle; online catalogue allows access to monitoring factsheets. | Information not available, as no specific methodology for assessing the success of laboratories was established. |
| | 5. Number of trainings positively evaluated by beneficiaries | Eight trainings organized (2 chemistry, biology, hydrobiology, ichthyology, 2 marine litter, classification schemes), trainings evaluation not available |
| | 6. Number of harmonisation workshops with definitive outcomes (demonstrated advancements in work on indicators, methodologies, monitoring programmes, etc.) | Two harmonization workshops organized with aim to prepare for the monitoring surveys, discuss methodologies, etc. / 7 institutions participating |
| | 7. Number of authorities representatives involved in the project | Seven natl. institutions participating in the project 3 environmental ministries involved (GE-MEPA, RF-MNRE, UA-MENR) |
| | 8. Number of national and regional new policy documents produced to enhance the harmonisation in monitoring | Four key documents prepared: Delineation of water bodies for Ukraine and Georgia prepared, submitted to MENR UA and MEPA GE for consideration, Road map for MSFD Implementation and plan for Initial Assessment prepared for Ukraine, submitted to MENR UA, Economic assessment for national monitoring |

### 5.4.3 Efficiency

The efficiency of the project was considered at "**Highly Satisfactory**".

The project structure outlined in the Inception Report (Figure 1) proved an efficient way of structuring the project. The reports of the Steering Committee outline the decision making at various key stages of the project, including changes to the DoA;[61] the determination to request an extension of 8 months;[62] changes to scope of activities, for example the reduce the scale of activities appropriately.[63]

The Project executed its tasks with highly successful financial efficacy. The project team balanced the overall project output needs with the reality of expenses. For example, during the Inception Meeting (1st Steering Committee) suggesting an 8 months extension "as a good balance to achieve all planned results and considering the running costs of the project".[64] The intended extension would have brought the project up to June 2018. Ultimately, the project was to terminate on 31 May 2018.

Economic efficiency was additionally imposed so under the situation of a 14% reduction in the budget which occurred due to exchange rate changes in 2016 - in the midst of major activities such as the survey cruise (See section above on project implementation above). As a consequence, an entire review of activities was needed and reassessed through discussions emerging from the 3rd Steering Committee meeting (Feb 2017).

Considering the events that took place during the course of the project, it can be said to have delivered its activities in a timely manner, with efficient and cost effective use of funds.

## 5.5 Sustainability

| Performance Criteria for Rating | |
|---|---|
| **4. Sustainability** | **Rating** |
| Financial resources: | Moderately Likely |
| Socio-political: | Likely |
| Institutional framework and governance: | Likely |
| Environmental: | NA |
| Overall likelihood of sustainability: | Likely |

The entire EMBLAS-II project has been conducted with the view to sustainability of the project outcomes. The project emphasizes the improvement of monitoring capabilities of the countries to undertake actions associated with the Bucharest Convention as well as EU responsibilities associated with the WFD and MSFD. By working enhancing the capacity of key semi-public institutions within the region, the project has advanced the ability of littoral states to meet their monitoring needs, as well as develop and enhance the ability for joint data collection.

The extensive awareness campaign will be a catalyst for ongoing public and political support for the improvement of the environmental situation in the Black Sea.

[61] EMBLAS (2015) Inception Report Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II), July 2015
[62] EMBLAS (2016) 2nd Steering committee Meeting, 31 March 2016, Istanbul, Turkey
[63] EMBLAS (2017) 3rd Steering Committee Meeting, 16 February 2017, Tbilisi, Georgia
[64] EMBLAS (2015) Inception Report Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II), July 2015. Istanbul, Turkey

There was no officially EMBLAS supported 2018 Black Sea Clean Beach Day, nevertheless, schools and communities previously involved have kept up the tradition. In one case two schools (one in Georgia and one in Ukraine) interacted via skype to discuss and share their activities.[65]

### 5.5.1 Financial sustainability:

The financial sustainability of the project in sustain the project benefits are "**moderately likely**".

While the countries are committed to continue monitoring and assessment of the Black Sea in line with their commitments under the Bucharest Convention and in preparing to adhere to EU framework directives, the cost associated with monitoring is not insignificant. This is particularly true with monitoring associated with new indicators such as micro plastics or biological indicators. Currently, the key national partner institutions do not all have the capability to conduct analysis of some indicators with acceptable QA/QC standards. This means either samples must be sent outside the region with additional costs, or institutions need to develop the capacity which will need to be sustained. There are clearly funds under EMBLAS-Plus to continue to the process of monitoring, harmonization and capacity building for another two years; however, additional funding will likely be needed beyond EMBLAS-Plus to sustain monitoring at a level required by the MSFD.

There is a strong likelihood that with greater integration into the EU there may be more opportunities for continued support for monitoring efforts.

### 5.5.2 Socio-political sustainability

The stakeholders and beneficiaries are "**likely**" to sustain the benefits of the project outputs. The basis of the EMBLAS-II project was to improve monitoring and assessment of the Black Sea environment as it had been identified as a major need by the Black Sea Commission. There is therefore political support for the project as it aligns with both national and regional priories (explained under the section on relevance). Moreover, in the case of the Ukraine and Georgia, their interest in adhering the EU policy is supported by the government, including the recently elected new government in Georgia. Moreover, commitment by the Black Sea countries to implement the BSC has continued despite political differences between the countries in recent years.

The public awareness activities conducted under EMBLAS-II illustrate strong support and interest from the citizens for the improvement of the Black Sea *see above section on Stakeholder engagement).

### 5.5.3 Institutional Framework and Governance risks to sustainability:

The benefits of the EMBLAS-II project are "**likely**" to be sustained as the project focused its partnerships with those national institutes already identified as responsible for monitoring activities associated with the Bucharest Convention. By enhancing their knowledge, capacity, and ability to harmonize results for a regional data base the institutions are more likely to achieve their existing commitments, as well as undertake additional monitoring responsibilities.

### 5.5.4 Environmental risks to sustainability:

Sustainability of environmental aspects are "**not applicable**".

[65] Pesonnal communication with interviewee.

The EMBLAS II project did not focus on improving the state of the environment of the Black Sea, but rather enhancing the mechanisms for monitoring and assessment to determine if the environment is improving or deteriorating, and to identify causal effects for pollution. The strategic logic behind the project is that better information will influence political will, resulting in better decision making and improved environment. The project document states in its strategy "relating pressures with impacts shall ultimately facilitate the project beneficiary countries' decision-making and help them sooner putting in place most adequate adaptive measures (or even programme of measures) to achieve and/or sustain the Black Sea good environmental status".[66] However, the project does not address environmental sustainability in a direct way.

## 5.6 Overall Impact

| Performance Criteria for Rating | |
|---|---|
| **5. Impact** | **Rating** |
| Overall impact | Satisfactory |

The overall impact of the EMBLAS-II project can be said to be "**satisfactory**".

The project has built and improved understanding of pressures and impacts arising from human activities in support to knowledge-based environmental protection. It contributed to improvements in the field of environment protection management, providing for guiding documents and management tools, new methods of surveying, harmonizing indicators and survey methods. The harmonization, at least in the indicators being measured, will allow for improved knowledge.

The upgrading of the BS WQD[67] allows for digitized input for data from the region. It is currently maintained by UkrSCES, and contains the data collected during the EMBLAS-II Surveys in 2016 and 2017 as well as the 12 months national monitoring programs conducted as part of EMBLAS-II.

It is not accessible from the BSC website and not yet linked with the BSIS data portal.

The BSIS is under the administration of the BS Commission Secretariat and is designed to have links to various data bases[68] with BS WQD being one of them. Providing, the BS WQD as a part of BSIS is seen as regionally important resource and mechanism of data exchange and assessment by the countries it provides a solid basis for improving knowledge and data regarding the region. However, there is some concern regarding the updating of the BSIS. The BSIS is only accessible for registered users, however, the link to the BSIS from the BS Commission web-page sends the user to a page whose IP address does exist. It should be noted that much of the BSC webpage could use updating. There should be some consideration given to making the BS WQD a "stand alone" site and having its data accessible to other portals in addition to the BSIS. This could possibly include the LME:LEARN marine visualization tool being developed by IUCN.

The project succeeded in bringing awareness of the major issues with a creative and effective campaign, reaching some 200,000 people (Annex H). While the interest is clearly there for more public involvement, activities will be needed to maintain momentum. The citizen involvement tools, such as the Black Sea SaveBook, initiated public engagement in citizen science, however they will have to be maintained and even upgraded if they are to have sustained impact.

[66] UNDP (2013) Project Document for "Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)", signed 17th December 2013

[67] http://blackseadb.org - however, it requires a password to entre.

[68] http://www.blacksea-commission.org/_bsis-description.asp

National policy was advanced through the development and facilitation of i) Delineation of water bodies for Ukraine and Georgia prepared, submitted to MENR UA and MEPA GE for consideration, ii) Road map for MSFD Implementation and plan for Initial Assessment prepared for Ukraine, submitted to MENR UA, iii) Economic assessment for national monitoring, and iv) MOU on environmental cooperation (see section on Effectiveness).

# 6 Conclusions

The EMBLAS-II Project was overall successful in achieving its intended objectives to:

(i) improve availability and quality of Black Sea environmental data in line with needs outlined in the EU Marine Strategy Framework Directive (MSFD) and the Black Sea SAP (2009); and
(ii) improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II[69] recommendations on capacity building.

The project is, understandably, of great relevance to the countries in assisting them to improve their reporting requirements under the Convention for the Protection of the Black Sea from Pollution, as well as countries to develop the capacity to report under the EU Marine Strategic Framework Directive and the Water Framework Directive. During the course of the project several significant policy outcomes were realized including the “Delineation of transitional and coastal water bodies of Ukraine and Georgia”; “Road Map for MSFD Implementation”; “Plan for Initial Assessment”; and “Economic Assessments of monitoring programs”; as well as facilitating a bi-lateral MOU between the Ukraine and Georgia on environmental protection of the Black Sea and its catchment.

The bulk of all the intended outputs were realized, and only moderately compromised, due to the scaling back of activities due to the shortfall in funds associated with the poor exchange rate between the Euro and US dollar, and the delayed initiation associated with DOA revisions. Indeed, in most areas targets were exceeded despite the scaling back in activities. For example, although the number of survey days in 2017 had to be reduced due to less funds, a total of 202,000 new data entries were made on the Black Sea Water Quality Database, exceeding the target of 140,000. Moreover, 8 descriptors specified in the EU Marine Strategy Framework Directive were reported on instead of a targeted 7.

The Black Sea Water Quality Database is updated and operational with a portal for data entry and accessible to the project partners. To support harmonization of data, 25 Standard Operational Procedures for sample collection have been established, 2 workshops on harmonization were conducted with 52 participants (25 of whom were women).

Joint surveys were conducted in 2016 and 2017 involving one Ukrainian-Georgian cruise and one Russian cruise, with new methods utilized for surveying and results input into the BS WQD. National monitoring programs were established in all three countries covering 12 sites and ran for 12 months in order to provide input to the National Black Sea Integrated Environmental Monitoring and Assessment Programmes (N-BSIMAPs). Project visibility was developed well with a website, facebook page, a short video, and several high-level press conferences, and the project team presented at international conferences including the UN Ocean Conference in June 2017 and the Black Sea Stakeholder Conference on Blue Economy in September 2017.

And a highly effective public engagement program was implemented, including active Black Sea Beach Clean Days in 2016 and 2017, engaging schools (over 3000 students), development of a

[69] Produced by EMBLAS-I, providing analysis of achievements and gaps in the field of Black Sea monitoring/data collection and assessments.

citizen-science phone app called “Black Sea SaveBook”, and creating a competition to become a “Guardian Angel”, based on the collection of credits through “BS Savebook”. These efforts all contributed to exceeding targeted expectations. Some of the creative materials included a series of educational infographics developed with the Cousteau Society, brochures, and even pins for “Angel Wings” based on the rare *Barnea candida* mollusk.

Involvement of women in the project implementation has been balanced in terms of representation from the national partner institutions, participation in capacity building activities – trainings and workshops, as well as contribution to the scientific results of the project and management.

The project was implemented and executed well, with a high degree of stakeholder involvement in decision making through an effective Steering Committee and good levels of communication. Team and UNDP were highly adaptive in addressing several large challenges which threatened the ability of the project to achieve its intended outputs. In particular, the political events in the Ukraine, beginning in February created a need to readdress the Description of Action (DoA) for project, which was accomplished by the Inception Meeting in July 2015. An unforeseen drop in the value of the Euro relative to the USD in 2016 and 2017 resulted in approximately 14% less funds. The project team and Steering Committee were able to scale back on several activities and outputs without compromising the impacts for the project. For example, shortening the cruise in 2017 from 20 days to 12, conducting less analysis of samples, and forgoing a final conference with scientific presentations.

The project was also able to secure in-kind contributions from a number of institutes assisting with their expertise in sample analysis and logistics including: EC Joint Research Centre – Ispra, Italy; Nanjing University, China; University of Florence, Italy; National Institute for Marine Research and Development “Grigore Antipa“, Romania; and the Environmental Institute, Slovakia.

Finally, the foundations further developed under EMBLAS-II will be expanded upon under EMBLAS-Plus which is anticipated to being March 2019 and end September 2020. The lessons learned and strategic logic of EMBLAS-II are being applied to EMBLAS-Plus programming and planning.

# 7 Lessons learned.

The following lessons learned from EMBLASS II are based on those reported on in the Final Report as well as the observations of the author:

1. Time is needed to adequately operationalize a project and should be included into project planning as such. In the case of EMBLAS-II this period was approximately 3 months.
2. Time is needed to consolidate information at the end of project and should be publicized and delivered thorough a final conference. In the case of EMBLAS-II no final conference was conducted and this was missed by stakeholders. There is an opportunity to do this under EMBLAS-Plus.
3. Linking the project onto clearly defined national and regional commitments and interests will help ensure stakeholder engagement and commitment. In the case of EMBLAS-II it was fulfilling obligations under the Bucharest Convention and in addressing requirements for adhering to monitoring requirements under EU MSFD and WFD.
4. Partnering with institutions which already have mandates for monitoring will help ensure sustainability of the capacity generated by the project.
5. The project benefited from developing cooperation with existing projects, and incorporating international scientists in activities (for example having 2 BENTHOX scientists participate in the

joint cruises in 2016 and 2017 or cooperation with EU funded APENA project on preparation of policy documents for Ukraine).

6. Exchange rates can have a significant negative effect on project budgets, and mitigation measures should be incorporated in future projects.
7. Involvement of international experts and scientific institutions has been beneficial and facilitated the transfer of experience from the EU member states, in particular for the practical laboratory analytical work, up-to date and novel methodologies in water quality monitoring (such as passive sampling, environmental DNA, microplastic analyses);
8. The public events organized within the Monitoring Surveys (with national media involvement), education campaigns, the Black Sea Clean Beach Days and the development of the mobile phone application "Black Sea Save Book" have confirmed importance of visibility actions for increasing awareness and active public involvement in the environmental protection of the Black Sea.

# 8 Recommendations for EMBLAS-Plus.

The exit strategy for EMBLAS II[70] addresses sustainability in several areas including:

- Ensuring that the data collected on the ocean surveys are used in the next Status of Environment report (2014-2010); form part of the initial assessments to be developed by Ukraine and Georgia linked to EU MSFD; survey methodologies and standard operating procedures are shared with the Black Sea Commission advisory groups; and that guidelines for macroplankton are added to the biological guidelines to be reviewed by the BS Commission.
- Maintenance and expansion of the Black Sea Water Quality Data Base (BS WQD) through the Ukrainian project partner UkrSCES, which is the Black Sea Regional Activity Center for Pollution Monitoring and Assessment of the Black Sea Commission; sharing the data with other marine information platforms; collecting and sharing data from other (past and future) surveys; increasing the number of modules within the BSIS to include biodiversity, marine litter and noise; improve the data base functionality for reporting; develop and on-line user guide; and a concept for the long-term maintenance of the database, and its interaction with the Black Sea Information System should be prepared.
- Improving the public awareness, specifically through the Black Sea SaveBook Game, the Black Sea Guardian Angel Award, and the SC Clean Beach Day.
- Further linking Initial Assessments to be developed by Ukraine and Georgia, linked to the EU MSFD implementation with data collected by EMBLAS-Plus.

The Exit Strategy is correct in advancing sustainability of the project outputs through promoting the use of the data and information generated (including SOPs); enhancing the Black Sea Water Quality Data Base; and building public awareness. These are the principal pillars upon which EMBLAS-Plus is founded along with a focus on reduction of marine litter. The exit strategy emphasises that the use of the data generated and methodologies developed should go to a broader audience than the BSC. This is echoed in sharing the BS WQD information with other marine platforms. It is important that the information generated be accessible to a wide a range of audiences as possible so that it may have the maximum amount of impact. Expanding beyond serving the BSC, and the Bucharest convention, will help ensure that this is achieved. Indeed, linking the information generated to Ukraine and Georgia's implementation of the EU MSFD is clearly, another important element in the

[70] Annex 16 of the EMBLAS (2018) Final Report 1 April 2014- 1 May 2018 "Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)", 29 November 2018

sustainability of the EMBLAS II outputs. However, outputs could be of use even beyond the scope of the BSC or the project countries.

Linking to other projects to enhance use and dissemination, however, should not detract from the focus on supporting the Bucharest Convention. This is also important as more attention is given to reporting requirements associated with the EU MSFD. As the source of funding for the activities is coming from the EU, a balance needs to be sought between enhancing EU alignment in the region and supporting the BSC. As noted in the EMBLAS-Plus Pro Doc: "The situation of EU-Russian Federation relations will be kept under review. It may have an impact on the activities of the BSC in which the Russian Federation could be involved."[71] Consequently, while aligning with the variety of national priorities that exist, emphasis should be first and foremost placed on the protection of the marine environment, which is supported by the Bucharest Convention, and additionally EU MSFD, amongst others.

One of the risks identified in the EMBLAS-Plus Pro Doc is poor coordination with Black Sea countries not involved in EMBLAS-Plus. It will therefore be important to emphasize linkages with other projects which will include other countries in the region and serve to broaden the base of potential activities. While the core of the EMBLAS-Plus should remain supporting the Bucharest Convention, the manner in which it does so should be as broad as possible. Linkages to both projects providing information which could feed into the BSIS as well as projects which could benefit from the information produced through EMBLAS-Plus will enhance the sustainability of the activities conducted. A review of potential partner projects should be conducted within the first year of the project.

The exit strategy emphasises public awareness raising ensure to sustainability of the work achieved; however, it does not go much into the mechanics of how this is to be achieved. On the other hand, this is elaborated under Result 3 in the Project Document for EMBLAS-Plus. The focus is enhancing the "Black Sea SaveBook" phone app, the Black Sea Clean Beach Day, and improving visibility of the project in general.

The importance of raising the general awareness of the public is underscored by understanding the role it plays in the various countries with regard to influencing political momentum towards achieving project goals and maintaining momentum for sustainability of action. The first three risks identified to EMBLAS-Plus, section 3.5.2 of the Proc Doc, which relate to the importance of building public awareness and momentum for a clean Black Sea:

- Continued administrative and structural difficulties and unstable political situation in the countries. Recently, both Ukraine and Georgia have faced administrative reforms which affected the field of environmental protection;
- Forthcoming Presidential and Parliamentarian elections in Ukraine, in 2019. Both elections will have impact on overall implementation as well as on partnership with the government of Ukraine. This may also result in changes in the management of the Ministry of Ecology and Natural Resources; and,
- Political relationships of Russian Federation with Ukraine and Georgia may have some implications on the project implementation, in particular for the organization of Joint Black Sea Surveys.

Building public awareness around the issues will help to build momentum and understanding around the state of the Black Sea and the actions which are needed to bring it to an appropriate level of environmental protection. The Public awareness and interest will outlive structural and political reforms, and to varying degrees influence political action/response in the project countries. Another

[71] Page 24 Project Document for EMBLAS-Plus.

factor that could influence a political action and maintain momentum to achieve project goals, would be to link tourism and Black Sea protection. If there are significant economic drivers beyond fisheries, then this can help to persuade political will. The EMBLAS-Plus Pro Doc, mentions the impact on human welfare and tourism;[72] however, does not identify specific activities other than including them in the list of NGO's and civil society organisation in which to promote awareness.[73] It may be beyond the scope of EMBLAS-Plus to conduct a study on tourism, however it would be useful to build linkages with any regional or national studies/projects involved in tourism. Possibly in conjunction with Cross-Border Cooperation (CBC) programmes 2014-2020.

**Key recommendations are as follows:**

1. **Build momentum for cooperation and trust by continuing to create partnerships and linkages with other projects.** While one of the key goals of EMBLAS is to support the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP), the project should emphasize development of synergies with existing and potential projects where benefit sharing can occur. This is important as the greater inter-relationships there are with other projects and other nations in the region the greater the possibility to ensure ongoing information and data exchange for environmental protection in the Black Sea. For example, the Exit Strategy promoted coordination between EMBLAS-Plus and the ENI CBC "Black Sea Basin Joint Operational Programme 2014-2020". It will be particularly important to link with projects that include Black Sea nations, other than the key beneficiaries, such as Turkey and Romania, to help create greater momentum for cooperation in the region. To this end, a review of projects, and "project linkage" memo or note should be developed and reviewed by the Steering Committee within the first year.
2. **Emphasize raising public awareness as a means of building knowledge and maintaining political will**. EMBLAS II did a very good job at building public awareness in the region regarding the protection of the Black Sea and pollution. It will be important to increase the effort associated with this under EMBLAS-Plus, as well as pay attention to the participation of women in awareness raising.
    i. Upgrading the "Black Sea SaveBook" to be able to have multiple experts address questions based level of knowledge in a "wiki" semi-open format. For example, an active user could be invited to respond to questions within a certain range of knowledge, otherwise more knowledge experts can be invited. Identify the institution that will sustain the SaveBook early in the project so that they operate it during the course of the project and do not just get it handed over to them at the end. Consider requesting an academic institution to take it over. Pay attention to the involvement of women
    ii. Consider establishing the Black Sea Clean Beach Day earlier in the year (late September) to involve more people with better weather, create collection competitions, awards, or self-made funny videos (oddest piece of litter), etc. that can be incorporated into the Black Sea Day ceremonies on October 31;
    iii. Place greater focus on "sharing data with other marine information platforms" explore the possibility to link with other international groups with high visibility platforms, and take advantage of info-graphics and visualization tools. For example linking with IUCN's marine visualization tools being developed under LME:LEARN;
3. **Conduct a short study on the economic valuation/importance of the environment in the Black Sea, particularly for tourism and fisheries.** Either through linking with other projects, or developing a standalone product, a policy brief on the economic benefits of the environment

[72] See "Development Context" page 5. Project Document for EMBLAS-Plus.
[73] See priority 2.2, page 21 of Project Document for EMBLAS-Plus.

would be useful to enhance political action at the national and regional levels. If, such a study cannot be accomplished within the timeframe of EMBLAS-Plus then the foundations for such a study should be laid for future work. Such a study would help increase involvement and awareness from line ministries associated with the economic development which would also enhance developing political will amongst a broader base.

4. Improve information and knowledge transfer both within the region and outside the region, to support functionality and usability of the BSIS and BS Water Quality Data Base –
    i. As per the Exit Strategy of EMBLAS-II[74], develop an agreement for the long-term maintenance of the database, and its interaction with the Black Sea Information System under EMBLAS-Plus;
    ii. Consider allowing public and academic access to the BSIS, or at least certain levels of information it contains; and,
    iii. Sharing data with other marine information platforms.
5. Activity and deliverables planning should take into account a start-up period for the project to become operational (3 months) as well as an information consolidation period at the end of the project (3 months). Also, project planning should include prioritization of the project activities at an early stage of the project implementation to ensure that unforeseen events do not undermine the overall project outcomes.
6. To mitigate the effect of altering exchange rates explore:
    i. having the entire committed grant exchanged into USD and held in a special donor's account, or placed in escrow to be released as per donor prescription;
    ii. Including an assessment of "currency exchange risk" under the risk management strategy;
    iii. allowing sufficient reserve in the budget planning, for example agreeing to 5% contingency amount that can be held back until requested;
    iv. Provide for some flexibility within project planning to alter outputs that would not undermine the project outcomes (for example, ensure outcomes are not dependent upon single outputs) - Active adaptive planning should be adopted where by details of activities are committed to depending on the amount received per tranche;
    v. Consider suggesting that the UNDP develop an "exchange contingency fund" to help address shortfalls – this could conceivably be contributed to by projects that have benefited from exchange rate fluctuations.
7. With the "call for partners" and "call for proposals" ensure that one of the criteria is the "commitment of institutions to sustain the activities post EMBLAS-Plus" as well as overall sustainability of pilot local activities.
8. Involvement of women in the project implementation should be further strengthened, in particularly in the context of the planned Call for proposals, which will be targeting local communities, NGOs/CSOS and general public.

[74] Annex 16 of the EMBLAS (2018) Final Report 1 April 2014- 1 May 2018 "Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS-II)", 29 November 2018

# Annex A – MTR ToR (excluding ToR annexes)

**Terms of Reference**

**International Consultant – Evaluation Expert for EU/UNDP Black Sea Projects:**

**"Improving Environmental Monitoring in the Black Sea, EMBLAS-II and EMBLAS-Plus"**

**Type of Contract:** IC (Consultant)

**Languages Required:** English required and working knowledge of Russian is an asset.

**Duration**: estimated 11 February – 28 February 2019 (approximately 10 working days).
**Location:** home based, with travels no travels.
The beneficiary countries to be covered are the members of the Black Sea Synergy[75], with a primary focus on the Black Sea coast countries Georgia, the Russian Federation[76] and Ukraine.

**1. Background**

The Black Sea is one of the most vulnerable regional seas in the world given its limited exchange of water with the open oceans and the large area of continental Europe from which it receives the drainage. The four strongly interlinked priority trans-boundary problems of the Black Sea are eutrophication - nutrient enrichment, changes in marine living resources, chemical pollution (including oil), and biodiversity/habitat changes, including alien species introduction - as well as the underlying root causes like industrial activities, agriculture, domestic wastewater, sea transport (oil spills, ballast water), and coastal zone degradation (urbanisation, tourism). The Convention on the Protection of the Black Sea against Pollution (Bucharest Convention) addresses these problems through enhanced cooperation among its signatories. The development/improvement of a monitoring network and data collection to provide for ecosystem-based and knowledge-based decision-making is considered to be a management target of high priority. Further coordination in policies and legislation between the Black Sea countries is of common interest in the region and specifically to the EU's partners countries, which are also members of the Black Sea Commission (BSC). The proper monitoring influences ability of the EU Accession countries to comply with EU legislation and policies, notably the EU Water Framework Directive (WFD) and the EU Marine Strategy Framework Directive (MSFD).

In order to help its Eastern neighbors to improve the protection of the Black Sea environment, the EU has provided support to specific activities on the ground. The Project "Improving Environmental Monitoring in the Black Sea" (EMBLAS) is one of such activities, which is being implemented in three phases (EMBLAS-I: 1 January 2013 – 31 March 2015, EMBLAS-II: 1 April 2014 and has ended 31 May 2018 and EMBLAS-Plus: 5 March 2017- 30 September 2020).

The EMBLAS I project has been a preparatory phase for a follow-up large scale monitoring programme in the BS region – EMBLAS II, followed by recently launched EMBLAS-Plus, which are further addressing the overall need for support in the protection and restoration of environmental quality and sustainability of the Black Sea Basin.

The EMBLAS-II specific objectives were as follows:

(i) improve availability and quality of Black Sea environmental data in line with needs outlined in the EU Marine Strategy Framework Directive (MSFD) and the Black Sea SAP (2009);

[75] Countries participating in the Black Sea Synergy: Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Greece, the Republic of Moldova, Turkey, Ukraine, Romania and the Russian Federation

[76] As recognised by international law.

(ii) improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II[77] recommendations on capacity building.

The following activities were carried out in the Phase 2 of the project – EMBLAS-II:

PA 1. Support at the implementation of countries' obligations under the Bucharest and other related Conventions and Agreements.

PA 2. National Pilot Monitoring Studies (NPMS) - Development and implementation of NPMS for testing and harmonisation of developed by EMBLAS-I drafts of cost-effective National Black Sea Integrated Monitoring and Assessment Programmes (N-BSIMAPs) in accordance with reporting obligations under the WFD, MSFD and BSIMAP.

PA 3. Large scale implementation of training and intercomparison programmes on monitoring methods and quality assurance adhering to the ISO 17025 standard.

PA 4. Joint Open Sea Surveys (JOSS) - Implementation of the Joint Black Sea Surveys methodology along the lines of the MSFD, WFD and BSIMAP.

PA 5. Upgrade and operation of the web-based Black Sea Water Quality Database.

PA 6. Dissemination of knowledge and best practices, public awareness and visibility.

PA 7. Management and coordination of the project.

The EMBLAs-II Project was prepared by UNDP Regional Centre for Europe and the CIS [78] in 2013 following demand from countries and submitted for financial assistance to EC DG/DEVCO in the context of the ENPI[79] East Regional Programme (see Strategy Paper 2007-2013[80]).

The EMBLAS-II Project has been financed by the European Union and co-financed by UNDP with total budget of EUR 2,723,800 (estimated at $2,832,421.16), as per EC-UNDP Contribution Agreement no ENPI/2013/313-169. The Project implementation started on 1 April 2014 and has ended 31 May 2018, thus having duration of 50 months (including 8 months of no cost extension approved by EC, from October 2017 to May 2018).

The EMBLAS-II project has been designed in the frame of the UNDP RBEC Regional Programme Document (2014-2017) and thus the project was linked to the Outcome 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded / Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.

[77] Produced by EMBLAS-I, providing analysis of achievements and gaps in the field of Black Sea monitoring/data collection and assessments.

[78] The UNDP Bratislava Regional Centre has been relocated to Istanbul in July 2014, it is now named Istanbul Regional Hub for Europe and the CIS - IRH.

[79] European Neighbourhood and Partnership Instrument.

[80] The strategy was adopted by EC in March 2007 (see: http://ec.europa.eu/europeaid/where/neighbourhood/regional-cooperation/enpi-east/index_en.htm).

Following the EC Implementing Decision on the ENI East Regional Action Programme 2017 (27 November 2017)[81] a follow-up phase of the project has been designed: EMBLAS-Plus, with the following objectives:

(i) Improve availability and sharing of marine environmental data from the national and joint regional monitoring programmes aligned with the MSFD and WFD principles and the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP);

(ii) Support joint actions to reduce river and marine litter in the Black Sea basin;

(iii) Raise awareness on the key environmental issues and increase public involvement in the protection of the Black Sea.

A number of activities will be implemented in the following components of EMBLAS-Plus project:

1. Implementation of National and joint regional monitoring programmes;
2. Joint monitoring and reduction of marine litter;
3: Conducting Environmental public awareness and educational campaigns;
4. Management and coordination of the project.

The EMBLAS-Plus project will be implemented in the context of the ENI Regional East Strategy Paper (2014-2020)[82]; Regional East Multiannual Indicative Programme (2017-2020)[83] and the Joint Operational Programme for the Black Sea Basin 2014-2020[84]. The project is part of the ENI East Regional Action Programme 2017, Part 2: Support to the Implementation of the Eastern Partnership Multilateral Dimension and the Implementation of the Northern Dimension and the Black Sea Synergy.

The EMBLAS-Plus Project is financed by the European Union and co-financed by UNDP with total budget of $1,827,315.16, as per EC-UNDP Contribution Agreement no ENI/2017/389-859. The Project implementation started on 5 March 2018 (retroactive start) and will end on 5 Sept 2020, thus having a duration of 30 months.

The EMBLAs-Plus has been designed within the UNDP RBEC Reg programme 2018-2021, thus corresponding to the Regional plan outcome 1. Accelerating structural transformations through more effective governance systems / Output 1.6. Solutions and regulatory frameworks to address conservation, sustainable use and equitable benefit-sharing of natural resources, developed in line with international conventions and national legislation through regional and cross-regional initiatives.

More information can be found at the project website: www.emblasproject.org

**2. Evaluation purposes, scope and objectives**

This Evaluation is initiated by the UNDP Istanbul Regional Hub (IRH) for Europe and CIS as the coordinator of the three phases of the EU-UNDP project: Improving Environmental Monitoring in the Black Sea.

The objective of this Evaluation is to:

[81] https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/eni_2017_c20177963_regional_action_programme_part_2.pdf; https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/eni_2017_040350_support_to_the_implementation_of_the_eastern_partnership_northern_dimension_and_the_balck_sea_synergy.pdf

[82] http://eeas.europa.eu/archives/docs/enp/pdf/financing-the-enp/regional_east_strategy_paper_2014_2020_and_multiannual_indicative_programme_2014_2017_en_.pdf

[83] http://eeas.europa.eu/archives/docs/enp/pdf/financing-the-enp/regional_east_summary_of_the_strategy_paper_2014_2020_and_multiannual_indicative_programme_2014_2017_en.pdf

[84] http://blacksea-cbc.net/wp-content/uploads/2015/12/ENI-CBC-Black-Sea-Basin-JOP-final.docx

- review and assess the EMBLAS-II project (results, efficiency, stakeholder involvement, sustainability) in relation to the stated project objectives
- produce recommendations for the next phase of the already ongoing EMBLAS-Plus project, activities of which are mostly building –up on the results of the EMBLAS-II phase.

The results of the evaluation will be considered for further planning of the EMBLAS-Plus project and where relevant incorporated into the project work-plan and inception report.

The Evaluation will include the assessment of the achievements of the project EMBLAS-II, measured against planned outputs set forth in the Project Document and the assessment of features related to the process of achieving those outputs, as well as the impacts the project. The evaluation will also review the planning & design of the follow-up phase (EMBLAS-Plus) and its linkages to the previous phase.

An assessment of project performance will be carried out, based against expectations set out in the EMBLAS-II Project Logical Framework (included in the Project Document), which provides performance and impact indicators for project implementation along with their corresponding means of verification.

**3. Evaluation criteria and key guiding questions**

The evaluation will at a minimum cover the criteria of: a) relevance; b) effectiveness; c) efficiency; d) sustainability.

Ratings must be provided on the selected performance criteria as indicated in the Annex 2, following the provided recommended rating scales.

The scope of the Evaluation will cover all activities undertaken in the framework of the project. The evaluator will compare planned outputs of the project to actual outputs and assess the actual results to determine their contribution to the attainment of the project objectives. The evaluation will also look at the planned activities of the new project and assess the linkages with the previous project and its results.

The evaluation will also review the efficiency of project management, including the delivery of outputs and activities in terms of quality, quantity, timeliness and cost efficiency.

Project evaluation sample questions:

Relevance:

- To what extent was the project in line with the national development priorities, the country programme's outputs and outcomes, the UNDP Strategic Plan and the SDGs, as well as regional policies?
- To what extent were lessons learned from other relevant projects considered in the project's design (e.g. evaluation of the previous phase)?
- To what extent were perspectives of the key stakeholders taken into account during the project design processes?
- To what extent does the project contribute to gender equality, the empowerment of women and the human rights-based approach?
- To what extent has the project been appropriately responsive to political, legal, economic, institutional, etc., changes in the country or in the region?

Effectiveness

- To what extent did the project contribute to the country programme outcomes and outputs, the SDGs, the UNDP Strategic Plan and national development priorities, as well as regional strategies?

- To what extent were the project outputs achieved?
- To what extent has the UNDP partnership strategy been appropriate and effective?
- What factors contributed to effectiveness or ineffectiveness?
- In which areas does the project have the greatest achievements? Why and what have been the supporting factors? How can the project build on or expand these achievements?
- In which areas does the project have the fewest achievements? What have been the constraining factors and why? How can or could they be overcome?
- What, if any, alternative strategies would have been more effective in achieving the project's objectives?
- Are the projects objectives and outputs clear, practical and feasible within its frame?
- To what extent have stakeholders been involved in project implementation?
- To what extent are project management and implementation participatory and is this participation contributing towards achievement of the project objectives?
- To what extent has the project been appropriately responsive to the needs of the national constituents and changing partner priorities?
- To what extent has the project contributed to gender equality, the empowerment of women and the realization of human rights?

Efficiency

- To what extent was the project management structure as outlined in the project document efficient in generating the expected results?
- To what extent have the UNDP project implementation strategy and execution been efficient and cost-effective?
- To what extent has there been an economical use of financial and human resources? Have resources (funds, human resources, time, expertise, etc.) been allocated strategically to achieve outcomes?
- To what extent have resources been used efficiently? Have activities supporting the strategy been cost-effective?
- To what extent have project funds and activities been delivered in a timely manner?
- To what extent do the M&E systems utilized by UNDP ensure effective and efficient project management?

Sustainability

- Are there any risks that may jeopardize the sustainability of project outputs (financial, social, political risks)?
- To what extent will financial and economic resources be available to sustain the benefits achieved by the project?
- What are the results transferred to the beneficiaries?
- What is the risk that the level of stakeholders' ownership will be sufficient to allow for the project benefits to be sustained?
- To what extent do mechanisms, procedures and policies exist to allow primary stakeholders to carry forward the results attained on gender equality, empowerment of women, human rights and human development?
- To what extent do stakeholders support the project's long-term objectives?
- What could be done to strengthen exit strategies and sustainability?

## 4. Methodology

The evaluation will be home based and carried out as a desk review. The evaluator is expected to consult all relevant sources of information, such as the Project document, Final Project report, Scientific

Reports and any other material that s/he may consider useful for evidence-based assessment. The evaluator will receive a detailed briefing from the UNDP EMBLAS-II project team. Interviews with the national stakeholders are optional (representatives of the national partner organizations, national focal points, Black Sea Commissioners, etc.).

**5. Evaluation products (deliverables)**

The key product expected from this terminal evaluation is a comprehensive analytical report in English that should follow the outline attached in Annex 1. The Terminal Evaluation Report will be stand-alone document that substantiates its recommendations and conclusions. The report will have to provide to UNDP complete and convincing evidence to support its findings/ratings.

The Evaluation Expert prepare the following documents, within the following time frame and payment schedule:

- Draft evaluation report – by 18 February 2019 (50% of payment)
- Final evaluation report – by 28 February 2019 (50% of payment

**6. Implementation arrangements and time frame**

The consultant will work under the supervision of UNDP IRH Regional Technical Advisor (RTA) for International Waters, in close cooperation with the Coordination / Quality Assurance Team and overall oversight by IRH Manger.

The report shall be submitted to the UNDP RTA: Vladimir.Mamaev@undp.org, with copy to UNDP IRH Senior Program Coordinator: Ekaterina.Paniklova@undp.org and UNDP IRH Manger: Gerd.Trogemann@undp.org. The finalized Evaluation Report is expected on 28 February 2019. The time frame of the deliverables may be adjusted considering the actual start of the contract.

The draft report and final report shall be submitted to the UNDP RTA: Vladimir.Mamaev@undp.org, with copy to UNDP IRH Senior Program Coordinator: Ekaterina.Paniklova@undp.org and UNDP IRH Manger: Gerd.Trogemann@undp.org.

Prior to approval of the final report, a draft version shall be submitted for comments to UNDP. The finalized Evaluation Report is expected on 28 February 2019. The time frame of the deliverables may be adjusted considering the actual start of the contract.

The timeframe and duration of activities are estimated to be broken down as follows:

| Deliverable | Time frame | Deadlines |
|---|---|---|
| Desk review | 4 days | |
| Draft evaluation report – to be submitted to UNDP for review and comments | 3days | 18 February |
| Final Terminal Evaluation Report | 3 days | 28 February 2019 |
| | | |

**7. Competences of the Evaluation Expert**

**Functional competencies:**

- Excellent communication and management skills and demonstrable capacity to lead a multi-national team and to work with governmental institutions;

- Demonstrated ability to develop strategies and work plans to accomplish objectives, empower others to translate visions and efforts into results, identify strategic issues, opportunities and risks and devise timely and effective responses;
- Openness to change and ability to receive/integrate feedback;
- Ability to work under pressure and stressful situations;
- Strong analytical, reporting and writing abilities.

**Corporate Competencies:**

- Demonstrates integrity by modeling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Respects and promotes international law, including with regard to territorial integrity;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favoritism;
- Fulfills all obligations to gender sensitivity and zero tolerance for sexual harassment.

**8. Qualifications of the Evaluation Expert**

The Evaluator **must be independent** from both the policy-making process and the delivery and management of activities in question, i.e. he/she must not have participated in the preparation and/or implementation of the assessed project and must not be in a conflict of interest with project-related activities.

Academic Qualifications/Education:

- Preferably PhD, or minimum Master Degree in chemistry, chemical oceanography, hydrobiology, environmental/natural sciences or environmental engineering.

Specific Experience:

- At least 7 years of professional experience in the field of integrated water resources management, in particular with EU water related legislation;
- Experience with UNDP projects in relevant field;
- Experience and/or knowledge of relevant projects and activities in the Black Sea Region
- Knowledge of UNDP's results-based evaluation policies and procedures
- Knowledge and practical experience in evaluation of international donor driven development projects, in particular with EU funded projects;
- Knowledge of MS Word, Excel and email communication software;

Language skills

- Excellent writing, editing and oral communication skills in English;

**9. Evaluation ethics**

This evaluation will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The consultant must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The consultant must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses with the express authorization of UNDP and partners.

# Annex B - Ratings Scales

**Performance criteria to be rated**

| Performance Criteria for Rating | | | |
|---|---|---|---|
| **1. Monitoring and Evaluation** | *rating* | **2. IA& EA Execution** | *rating* |
| M&E design at entry | | Quality of UNDP Implementation | |
| M&E Plan Implementation | | Quality of Execution - Executing Agency | |
| Overall quality of M&E | | Overall quality of Implementation/Execution | |
| **3. Assessment of Outcomes** | **rating** | **4. Sustainability** | **rating** |
| Relevance | | Financial resources: | |
| Effectiveness | | Socio-political: | |
| Efficiency | | Institutional framework and governance: | |
| Overall Project Outcome Rating | | Environmental: | |
| | | Overall likelihood of sustainability: | |
| **5. Impact** | **rating** | | |
| | | | |
| Overall impact | | | |

| Rating Scales | |
|---|---|
| Ratings for<br>M&E, I&E Execution, Outcomes, Effectiveness, Efficiency, | 6: Highly Satisfactory (HS): no shortcomings<br>5: Satisfactory (S): minor shortcomings<br>4: Moderately Satisfactory (MS)<br>3. Moderately Unsatisfactory (MU): significant shortcomings<br>2. Unsatisfactory (U): major problems<br>1. Highly Unsatisfactory (HU): severe problems |
| Relevance ratings | 2. Relevant (R)<br>1.. Not relevant (NR) |
| Sustainability ratings: | 4. Likely (L): negligible risks to sustainability<br>3. Moderately Likely (ML): moderate risks<br>2. Moderately Unlikely (MU): significant risks<br>1. Unlikely (U): severe risks |

# Annex C - List of persons interviewed

| Name | Position & Contact | Date | Comments |
|---|---|---|---|
| Vladimir Mamaev | GEF Regional Technical Advisor<br>United Nations Development Programme - Europe and the CIS<br>vladimir.mamaev@undp.org | April 11, 13 | Skype |
| Olena Marushevska | PR EMBLAS team member<br>bluerivers.ukraine@gmail.com | 15 Feb | Skype call<br>Had been the PR person for EMBLAS II |
| Marcela Fabianova | Water Programme Analyst<br>UNDP Istanbul Regional Hub<br>marcela.fabianova@undp.org | | Various skype and email contact 12-20 February |
| Viktor Komorin | Ukrainian Scientific Center of Ecology of the Sea Ukraine<br>National Lead Partner Organization<br>vkomorin@gmail.com | 16 Feb | |

# Annex D - List of documents and websites reviewed

*Convention on the Protection of the Black Sea Against Pollution,* signed in Bucharest in 21 April 1992, entry into force 15 January 1994. Available from http://www.blacksea-commission.org/_convention.asp

Avoyan, E., et al. (2017). "The performance of the Black Sea Commission as a collaborative governance regime." Marine Policy **81**(July): 285:292.

BSC (2009) Strategic Action Plan for the Black Sea, Available from http://www.blacksea-commission.org/_bssap2009.asp

UNDP (2013) Project Document for "**Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)",** signed 17th December 2013.

EMBLAS (2014) EMBLAS II Consultation Meeting, 4 November 2014, Istanbul, Turkey

EMBLAS (2015) – Description of Action, **Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II), revised September 2015.**

EMBLAS (2015) Inception Report **Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II),** July 2015. Istanbul, Turkey

EMBLAS (2015) 1st Steering Committee Meeting, 2 July 2015, Istanbul, Turkey

EMBLAS (2015) Communication Plan,

EMBLAS (2016) Communication Plan -updated,

EMBLAS (2016) 2nd Steering committee Meeting, 31 March 2016, Istanbul, Turkey

EMBLAS (2016) 1st Progress Report 1 April 2014 - 31 December 2015 "**Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)"**

EMBLAS (2016) 2st Interim Progress Report 1 January 2015- 31 July 2016 "**Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)"**

EMBLAS (2016) **National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, 2016, Final Scientific Report,** December 2016.

EMBLAS (2017) 3rd Steering Committee Meeting, 16 February 2017, Tbilisi, Georgia

EMBLAS (2017) 3st Interim Progress Report 1 August 2016 - 31 July 2017 "**Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)"**

EMBLAS (2018) **National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine**, September 2017.

EMBLAS (2018) Final Steering Committee Meeting, 26 October 2018, Istanbul, Tbilisi

EMBLAS (2018) Final Report 1 April 2014- 1 May 2018 "**Improving Environmental Monitoring in the Black Sea – phase II (EMBLAS II)"**, 29 November 2018.

EMBLAS (2017) Proect Document for "**Improving Environmental Monitoring in the Black Sea – Selected Measures**" (EMBLAS-Plus). December 2018.

EU (2017) COMMISSION IMPLEMENTING DECISION of 27.11.2017 on the ENI East Regional Action Programme 2017 Part 2 (including two actions on budget 2018 and two actions on budget 2018 &2019), to be financed from the general budget of the European Union. Available at https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/eni_2017_c20177963_regional_action_programme_part_2.pdf See Annex 7: Implementation of the Eastern Partnership multilateral dimension and support to the implementation of the Black Sea Synergy and the Northern Dimension;

Melikayan, L. and O. Krylova (2016). UNDP Regional Programme for Europe and the Commonwealth of Independent States (2014-2017): Midterm Outcome Evaluation. Islanbul, United Nations Development Programme. 11 April 2016.

UNDP financial reporting for 2014,2015, 2016, 2017, 2018 (20 November, 2018)

| Website | Comments |
|---|---|
| http://emblasproject.org/ | Many reports are publically available, including: EMBLAS I Final Report – September 2015; Scientific Report – Joint Black Sea Surveys 2016; EMBLAS I project leaflet; amongst others. |
| http://www.blacksea-commission.org/ | Contains reference to EMBLAS |
| http://blackseadb.org | Appears operational – but needs a password to entre. It was not part of this evaluation. |
| https://webgate.ec.europa.eu/ maritimeforum/en/comment/reply/4048 | EU report on 2017 Stakeholder Conference on Black Sea. |
| https://www.youtube.com /watch?v=7JxEbw5yRY4&feature=youtu.be | MOU signing Ceremony |
| http://labos.ulg.ac.be/mast/projects/ benthox/cruises/) | BENTHOX web site describing the cruise. |

# Annex E - Signed UNEG Code of Conduct form

**ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM**

**Evaluator:**

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. Should provide maximum notice, minimize demands on time, and respect people's right not to engage. The evaluator must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. The evaluator is not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluator should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, the evaluator must be sensitive to and address issues of discrimination and gender equality. Should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, the evaluator should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Is responsible for their performance and their product(s), and responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Evaluation Consultant Agreement Form**[1]

**Agreement to abide by the Code of Conduct for Evaluation in the UN System**

**Name of Consultant:** Glen S. Hearns

**Name of Consultancy Organization** (where relevant): _____

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Vancouver on 8th February 2019

Signature: _____

# Annex F – Strategic Results Framework

| | Intervention logic | Objectively verifiable indicators of achievement | Sources and means of verification | Assumptions |
|---|---|---|---|---|
| Overall objectives | What are the overall broader objectives to which the action will contribute? | What are the key indicators related to the overall objectives? | What are the sources of information for these indicators? | |
| | To improve the level of protection of the Black Sea environment | • Quality and effectiveness of environmental monitoring improved<br>• Effectiveness of environmental data management improved<br>• Ecosystem-based management (information/knowledge-based adaptive management) further developed and national approaches to environmental protection harmonised<br>• Countries' obligations under the Bucharest Convention more extensively implemented<br>• Public awareness in the field of environment protection enhanced | • Black Sea national integrated monitoring programmes (developed and promoted), taking into consideration the MSFD principles and the needs of the Black Sea regional SAP<br>• EMBLAS-II project reports, especially the Final and Pilots and Joint Black Sea Surveys Technical Reports<br>• Regional databases with improved data quality/collection and data management<br>• Regional policy documents aimed at harmonisation of monitoring (all methodologies/guidelines, produced by the project)<br>• Web-based Black Sea Monitoring catalogue<br>• Results of application of water quality/GES classifications and of pressure/impact analysis<br>• Sustainable practice of Joint Open Sea Surveys<br>• Black Sea Diagnostic Report II and following editions<br>• New national policy documents aimed at management of Black Sea environment protection<br>• BSIMAP – revised policy document<br>• Black Sea SAP Implementation Report (5-yearly, published by BSC)<br>• Black Sea SoE (5-yearly, published by BSC)<br>• National annual reports to the Black Sea Commission (Bucharest Convention) and other Conventions<br>• Reports of Black Sea related Projects (e.g. PERSEUS, CoCoNet, etc. and new that would appear) | |

| | Intervention logic | Objectively verifiable indicators of achievement | Sources and means of verification | Assumptions |
|---|---|---|---|---|
| Specific objectives | What specific objective is the action intended to achieve to contribute to the overall objectives? | Which indicators clearly show that the objective of the action has been achieved? | What are the sources of information that exist or can be collected? | Which factors and conditions outside the Beneficiary's responsibility are necessary to achieve that objective? Which risks should be taken into consideration? |
| | Specific objective 1:<br>• to improve availability and quality of Black Sea environmental data in line with the MSFD and Black Sea Strategic Action Plan (2009) needs | • Legal/policy framework of monitoring and data collection further developed (measured by relevant new pieces of legislation/policy produced and promoted for adoption)<br>• Institutional framework of BS monitoring/data collection improved and enhanced (measured by number of organisations officially recognised as participating in governmental monitoring programme/s)<br>• Amount of environmental data collated in national and regional databases increased by minimum 10% and 30%, respectively<br>• Increased number of data providers<br>• Increase in temporal and spatial coverage of data collected to assess the Black Sea SoE<br>• Environmental data collected by the project beneficiary countries cover 60% of the MSFD list of GES indicators from an initial 35%<br>• Indicator-based reporting adopted by 3 countries out of 3<br>• Inter-operability of the Black Sea Water Quality Database with other regional and European data management infrastructures established<br>• Access to available data (data and metadata)<br>• Comparability of data enhanced (measured by the common methodologies of sampling, sample processing and data management applied)<br>• Number of national cruises (outside the project) organised taking into consideration the methodologies and new parameters recommended by the project<br>• Amount of data produced outside of the project to improve knowledge-based decision-making as motivated by the project<br>• Number of new projects inspired by the EMBLAS-II recommendations on further developments | • New legal/policy documents aimed at increase of the availability and quality of Black Sea –related data<br>• New legal/policy documents aimed at improvement of the monitoring institutional framework<br>• Indicator-based reports (SAP Implementation Report, State of the Environment Report), recommendations for the SAP revision<br>• Results of application of water quality/GES classifications and of pressure/impact analysis (in EMBLAS II, other projects, national and regional annual reports)<br>• Technical Reports on field work designed and carried out using the Guidelines for biological and chemical monitoring (external also)<br>• Regional databases with improved data quality/collection and data management<br>• National databases<br>• Recommendations for planning of MSFD implementation/ Initial assessment in Ukraine and Georgia<br>Relevant Chapters in the Interim and Final Project Reports | • Continued interest by some of the beneficiary countries towards harmonisation and approximation with relevant EU environmental policy/legislation<br>• Continued cooperation of relevant authorities to identify gaps in the relevant monitoring programmes and datasets<br>• Responsiveness of data holders to the project's requests<br><br>Risks:<br>• Continued administrative reform which has impacted or could impact the environmental protection policy area<br>• Unstable political situation in the countries and between the countries<br>• Environment protection not among the priorities of partner countries' policies and cannot rely on abundant financial resources<br>• Inertia, where institutional practices of vertically organised responsibility do not change, even where legislation would appear to make it necessary<br>• Non-involvement or lack of interest of concerned parties<br>• Lack of sustainability of regional awareness and regional stakeholders' involvement<br>• Weak common regional identity and poor legal framework at regional level can threaten project performance.<br>• Poor coordination with the Black Sea countries and regional cooperation initiatives that are not covered by this project<br>• Overlapping initiatives and vested interests of actors, countries, organisations and donors |

| | Intervention logic | Objectively verifiable indicators of achievement | Sources and means of verification | Assumptions |
|---|---|---|---|---|
| Specific objectives | What specific objective is the action intended to achieve to contribute to the overall objectives? | Which indicators clearly show that the objective of the action has been achieved? | What are the sources of information that exist or can be collected? | Which factors and conditions outside the Beneficiary's responsibility are necessary to achieve that objective? Which risks should be taken into consideration? |
| | Specific objective 2:<br><br>• to improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report II recommendations on capacity building | • National integrated monitoring programmes proposed, taking into consideration the MSFD principles<br>• Common methodology for marine environmental assessment based on the principles and methodologies of the EU WFD and MSFD developed and submitted to national authorities for approval<br>• Ability to make use of harmonised SOPs, QA/QC and DQC manuals tested by means of questionnaires and field testing (pass marks > 60%)<br>• Laboratories' success rate in inter-comparison sampling exercise improved by 50% throughout the project cycle; online catalogue allows access to monitoring factsheets<br>• Number of trainings positively evaluated by beneficiaries<br>• Number of harmonisation workshops with definitive outcomes (demonstrated advancements in work on indicators, methodologies, monitoring programmes, etc.)<br>• Number of authorities representatives involved in the project<br>• Number of national and regional new policy documents produced to enhance the harmonisation in monitoring | • Online environmental monitoring catalogue<br>• National integrated monitoring programmes<br>• Results of inter-comparisons aiming at testing laboratories' capacities to analyse samples<br>• Assessment of agencies' knowledge and application in practice of the new monitoring and assessment methodologies<br>• National budgets for monitoring activities<br>• New national and regional policy documents related to monitoring<br>• Relevant Chapters in the Interim and Final Project Reports | • Continued interest by some of the beneficiary countries towards harmonisation and approximation with relevant EU environmental policy/legislation<br>• Political support to the project by relevant national authorities<br><br>Risks: same as for the specific objective 1 |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | 1.1 Indicator-based reporting on compliance further developed and systematically used by partner countries | Indicator 1.1: Support the further development of an indicator-based reporting on compliance within the Black Sea countries' obligations under the Bucharest Convention provided and Indicator-based reporting on compliance further developed:<br>• Number of compliance indicators approved by BSC and monitoring of application and use of the indicators in policy making<br>• Compliance indicators and regional Good Environmental Status (sensu MSFD) definition and targets proposed for adoption by BSC | • Compliance indicators report<br>• Proposal on modification of selected BSC data/ information reporting sheets to incorporate the new compliance indicators<br>• BS SAP IR (incl. methodology) – GE, RF, UA National reports<br>• Recommendations on the BS SAP 2009 revision<br>• Regional WQ/GES methodology<br>• Mass-loads' methodology<br>• Report on reference conditions and environmental targets<br>• Harmonisation workshops back to back with meetings of BSC AGs and BSC + materials (minutes, lists of participants, supporting documents); input from expert harmonisation workshops organised in PA3<br>• Roadmap for implementation of the MSFD in GE and UA<br>• A plan for the development of Initial Assessment (IA) and GES determination in GE and UA | • Continued endeavour of the beneficiary countries to harmonisation and approximation with EU environmental policy/legislation<br>• Cooperation of relevant authorities to find out the gaps in their work<br>• Good political will of relevant national authorities<br>• Project ownership developed |
| | 1.2 Harmonisation of policies advanced (including pressures) and harmonisation-related capacity enhanced and awareness of harmonisation needs raised | Indicator 1.2. Support the harmonisation of national policies, including common understanding of WQ/GES provided and harmonisation of policies advanced and awareness on harmonisation needs raised<br>• Number of stakeholders involved in the harmonisation and reform process<br>• Number of pieces of legislation and policy harmonised per country<br>• Number and quality of selected environmental targets (pressures-impacts based) developed<br>• WQ/GES Methodology tested and further developed<br>• Number of organisations that are aware of the WQ/GES Methodology and that are reporting to apply the WQ/GES Methodology<br>• Mass loads methodology for point LBS prepared and promoted<br>• Number of harmonisation-related capacity building/awareness events organised | | |
| | 1.3 Implementation of the Bucharest Convention supported in the area of marine monitoring and assessment | Indicator 1.3 -1.4: Implementation of the Bucharest Convention supported, including SAP implementation; *ad hoc* support and advice on policies, legislative reforms and enforcement related to | | |

| | Intervention logic | Objectively verifiable indicators of achievement | Sources and means of verification | Assumptions |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | 1.4 Regional cooperation for interaction between science, national policy making and Black Sea Commission enhanced | the relevant sections of the Association Agreements of Ukraine and Georgia provided<br>• Gap analysis of the Black Sea SAP implementation produced upon request<br>• Recommendations on the revision of the BS SAP produced<br>• Black Sea SOE: Scientific Assessment Report supported for Georgia, Russian Federation and Ukraine upon their request<br>• Number of policy support and advice requests by partner countries<br>• Number of times policy support and advice services provided<br>• Road-map for implementation of the MSFD in Georgia and Ukraine in line with the AA deadlines prepared<br>• Plan for IA development and GES identification prepared in line with AA deadlines | | |
| | 2.1 Harmonisation of monitoring further supported and advanced - Concept for sustainable operational monitoring in the Black Sea region produced and relevant organisations contributing to the revised national and regional programmes | Indicator 2.1: Cost-effectiveness of the monitoring programmes revision assessed, and put forward options on economic instruments and funding mechanisms<br>• Concept for sustainable operational monitoring in the Black Sea region produced | • Cost-effectiveness assessment of monitoring/economic instruments, (evaluation of national budget for BS monitoring and its trends during the last 10 years)<br>• Three workshops (Odessa, Sochi, Batumi), back-to-back with the training workshops (PA3)<br>• Monitoring factsheets template and Data Collection Templates (DCTs) for each parameter to be measured within the NPMS<br>• Concept of the BS monitoring catalogue (incorporating BS regional Guidelines and agreed SoPs) | • Beneficiary states willing to improve their monitoring systems<br>• Continued endeavour of the beneficiary countries to harmonization and approximation with EU environmental policy/legislation.<br>• Cooperation with the private sector<br>• Project ownership developed<br>• Cooperation with other projects |
| | 2.2 Understanding of pressures-impacts relations advanced - Online Black Sea Monitoring Catalogue and Manual set up, agreed with beneficiary countries and regularly used | Indicator 2.2: Online Black Sea Monitoring Catalogue and Manual with monitoring specifications prepared and its use promoted<br>• Monitoring factsheets produced | | |
| | 2.3 Testing of separate parts of revised monitoring programmes supported, operational (real-time) monitoring further promoted and wider practiced - Pilot surveys (National Pilot Monitoring Studies) organised and obtained data incorporated in the Black Sea Information System | Indicator 2.3 - 2.4: Pilot implementation of revised environmental marine monitoring programmes in selected sites, including transboundary areas<br>• Number of pilot surveys organised<br>• Number of screened pollutants/parameters<br>• Type and amount of data collected | | |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | 2.4 Amount of quality data and data products available for SoE reports increased and quality assessment of collected data produced | • Technical Reports on the pilots drafted and circulated<br>• Amount of data incorporated in BS WQ Database and BSIS<br>• Number of data products produced | • Online BS monitoring catalogue and Manual; Workshop<br>• Methodology for National Pilot Monitoring Studies<br>• National Pilot Monitoring Studies manual<br>• Organisation and implementation of the surveys and monitoring activities within the National Pilot Monitoring Studies<br>• Filled out Data Collection Templates - pre-agreed formats for data delivery<br>• Technical reports from the large scale pilot surveys within the National Pilot Monitoring Studies<br>• Technical report from the long-term (12 months) monitoring pilot study<br>• Final Summary Technical Report<br>• Final version of Biological Guidelines<br>• Organisation of intercomparisons<br>• Technical reports on intercomparisons carried out within the large scale pilot surveys 1 and 2 organised within the NPMS (& information on recommended conversion factors, if needed)<br>• Concept on BS sustainable operational monitoring (for inclusion into N-BSIMAP) + stakeholder consultations | • Cooperation with scientific institutions<br>• Preparedness of scientific institutions to work in a harmonised way |
| | 2.5 Reasons for incompatibility of data (if any) outlined, recommendations for solving the problems produced (based on results of inter-comparison exercises). | Indicator 2.5: Biological monitoring guidelines and operational monitoring further promoted and integrated into national monitoring programmes.<br>• Number of organisations informed and willing to deal with the proposed national and regional monitoring programmes<br>• Number of inter-comparisons organised and evaluated<br>• Number of organisations participating in inter-comparisons<br>• Number of laboratories with high quality results in inter-comparisons | | |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | | | • Further developed and finalised monitoring programmes revision + promoted for adoption<br>• Sustainable Operational Monitoring (SOM) reported as a part of the N-BSIMAPs | |
| | 3.1 QA/QC manuals regularly used, SOPs<br>3.2 QA/QC procedures applied both for chemical and biological parameters | Indicator 3.1 - 3.2: SOPs and QA/QC and DQC manuals disseminated and promoted at the national and regional level, their use in the field and laboratories evaluated and recommendations on improvements prepared<br>• Number of laboratories that applied QA/QC based on the regional guidelines that were recommended | • Recommendations on improvements of SOPs and QA/QC manuals<br>• Final Training Programme<br>• Trainings in selected laboratories/at selected sites for experts from all three countries organised, training materials prepared, evaluations conducted<br>• Chemistry / Biology / Fish<br>• Harmonisation workshop (incl. evaluations); focus on chemistry and preparation of NPMS and JOSS; proposal of the BS regional scale classification for selected indicators<br>• Harmonisation workshop (incl. evaluations); focus on biology, preparation of NPMS and JOSS; proposal of the BS regional scale classification for selected indicators<br>• Harmonisation workshop evaluation of the proposed BS regional scale classification schemes for selected indicators | • Responsiveness of Reference and other laboratories<br>• Cooperation with other projects<br>• Capacity of Reference and other laboratories to apply recommended methods |
| | 3.3 Training materials prepared and distributed<br>3.4 Number of trainings organised and evaluated with a sufficient number of key organisations in the training programmes in each country and "online-training options"<br>3.5 Capacity of Black Sea Laboratories enhanced through trainings and assessed via tailor-made tests<br>3.6 Overall performance of Black Sea laboratories improved and expertise of scientists increased | Indicator 3.3 - 3.6: Training programmes on monitoring methods and quality assurance (chemistry and biology), further developed and delivered and their assessment and adaptation of the training needs to ensure their alignment with the countries' needs and level of advancement<br>• Number of organisations taking part in the training programme<br>• Number of trainings organised<br>• Score of the trainings' evaluations forms filled in by training beneficiaries<br>• Pass mark results of tailor made tests to assess laboratories' capacity enhancement<br>• Report on the activities and lessons learnt drafted and disseminated | | |
| | 3.7 Methods (sampling and processing) for selected priority parameters harmonised | Indicator 3.7: Harmonisation of methods applied - organisation of validation and experience-sharing workshops on harmonisation of monitoring methods (sampling, processing) for selected priority parameters (back to back with the training/s)<br>• Number of methods harmonised | | |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | | • Number of organisations involved in harmonisation of methods<br>• Number of laboratories that applied the recommended methods | | |
| | 4.1 Joint Open Sea Surveys organised and performed at agreed representative sampling sites in the Black Sea; and integrated as a permanent BSIMAP feature<br>4.2 Quantity and quality of Black Sea marine environmental data increased<br>4.3 Inter-project and cross-country cooperation in joint monitoring activities further developed<br>4.4 Methodology for joint surveys elaborated and examined for suitability for application by key stakeholders on a regular basis<br>4.5 Common monitoring methods used and Integration of biological quality elements with physico-chemical quality elements improved<br>4.6 Recommendations for solving potential problems in the assessment of risks arising from the incompatibility of data (if any) followed (Workshops organised to discuss practical and methodological issues) | Indicator 4.1 - 4.6: Joint Open Sea Surveys in the Black Sea organised, based on the methodology prepared during EMBLAS-I with agreed sampling protocols; assistance provided to participating laboratories in processing of samples (using QC procedures and agreed methods to ensure reliability and comparability of data), management of collected data in line agreed reporting<br>• Number of Black Sea Joint Open Sea Surveys performed<br>• Number of pollutants screened and number of parameters analysed during the joint Black Sea surveys<br>• Type and amount of data collected<br>• Number of data products produced | • JOSS Manual based on the JOSS Methodology incl. list of the surveys sampling sites, equipment, chemicals and consumables, sampling protocols, data reporting sheets, assessment methodology and a list of JOSS Core Team members<br>• JOSSs organised and Technical reports prepared<br>• Data Collection Templates filled out with data uploaded into the BS WQD<br>• Filled out Data Collection Templates checked<br>• JOSS evaluation workshops<br>• Joint Black Sea surveys integrated as a permanent BSIMAP feature | • Cooperation with other projects |
| | 4.7 Transboundary environmental problems analysis supported by appropriate monitoring data and information and knowledge on the environmental status of the Black Sea advanced | Indicator 4.7: Assistance provided to the partner countries in developing a common approach to marine environment assessment based on the principles and methodologies of the EU WFD and MSFD; and preparatory activities undertaken for environmental assessment of the Black Sea along the lines of the WFD and the MSFD<br>• Environmental Assessment of the Black Sea produced | | |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | 5.1 BS WQD and Interactive Map Service further developed as an upgrade of the BSIS Pollution database<br>5.2 User guide and Documentation for technical staff and data managers regularly used and updated where necessary<br>5.3 Feedback on the use of the BS WQD regularly received and processed to facilitate technical improvements<br>5.4 Black Sea Water Quality Database further developed as an upgrade of the BSIS Pollution database; including user guides and feedback forms to be regularly updated and evaluated<br>5.5 *Mnemiopsis* and Phytoplankton databases further developed and integrated into the BS WQD<br>5.6 Proposals for the long-term maintenance of the BS WQD and availability to the public of the information contained therein, depending on the level of confidentiality, implemented<br>5.7 Provisions for handing over the database management to the beneficiaries implemented and formal agreements signed by the responsible parties of the database | Indicator 5.1 - 5.7: Improved operation, functioning and content of the Black Sea Water Quality Database as an upgrade of the BSIS Pollution database and other components of BSIS (gelatinous zooplankton and phytoplankton;including user support and feedback evaluation, regular software tests and guidelines updates), exit strategy prepared (handover of the database and sustainability)<br>• Number of new database modules developed<br>• Number of organisations using the new database tools and reporting on it<br>• Number of data providers trained<br>• Proposal for the further development of BSIS formulated | • Upgraded on-line BS Water Quality Database (WQD)<br>• *Mnemiopsis* on-line database module<br>• Phytoplankton on-line database module<br>• Web-based manual for:<br>- Upgraded version of the database<br>- *Mnemiopsis* module<br>- Phytoplankton module<br>• On-line training on the use of the BS WQD to the users<br>• Upgraded and harmonised Data Collection Templates (DCTs) and database export/import functions<br>• Preparation, distribution and evaluation of a questionnaire – feedback forms<br>• Proposal for handing over the database including (i) report on the activities undertaken, (ii) proposal for the further development of BSIS and (iii) related draft formal agreements | • Willingness to cooperate of institutes with local databases of biological and chemical data<br>• Acceptance of the Black Sea technical data and information infrastructure |
| | 5.8 Interoperability with other databases assessed and developed and cooperation with other projects (e.g., SEIS) and organisations (e.g., ICPDR, NORMAN) for improving the BS WQD established and pursued | Indicator 5.8: Implemented interaction between the Black Sea Water Quality Database and a) other Black Sea regional data management infrastructures (e.g. created under Emodnet, SeaDataNet, MONINFO, MISIS) and b) the WISE-Marine (EEA) and SEIS systems, ICPDR, NORMAN | | |

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Expected Results | The results are the outputs envisaged to achieve the specific objective. What are the expected results? | What are the indicators to measure whether and to what extent the action achieves the expected results? | What are the sources of information for these indicators? | What external conditions must be met to obtain the expected results on schedule? |
| | 6.1 Project ownership and visibility developed and Knowledge and information on project outcomes disseminated | Indicator 6.1: Information on project results widely disseminated, with emphasis on visibility of EC and UNDP support<br>• Dissemination Plan produced<br>• Project webpage regularly nourished and updated, new functionality and web services and integration with social networking sites developed<br>• Project banner, leaflet produced<br>• Number of presentations at different meetings prepared and presented (or Posters)<br>• Number of press releases | • Project Dissemination Plan<br>• Project Webpage (maintain and sustain)<br>• Project banner, leaflet<br>• 'Environmental sentinels' education campaign<br>• Brochure (1x)<br>• Press releases (4x)<br>• Newsletters (2)<br>• End-users Core Group (list with contact details) | • |
| | 6.2 Public awareness raised and Public education at different levels increased<br><br>6.3 Targeted information provided for policy makers, institutions involved in the environmental monitoring, scientific community, other target groups | Indicator 6.2 - 6.3: Public awareness increased and tailor-made information to different target groups provided<br>• Brochure on the project outcomes produced<br>• Holding of special workshop(s) in GE, RF, UA for sentinels monitoring – publishing of guidelines, education materials<br>• Postings on web portals of networks and on the web page of the project regularly provided<br>• Project newsletter at the end of each year produced and published electronically | | |

| | **Intervention logic** | Objectively verifiable indicators of achievement | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| Activities | What are the key activities to be carried out and in what sequence in order to produce the expected results? (group the activities by result) | **Means:** What are the means required to implement these activities, e. g. personnel, equipment, training, studies, supplies, operational facilities, etc. | What are the sources of information about action progress? **Costs:** What are the action costs? How are they classified? (breakdown in the Budget for the Action) | What pre-conditions are required before the action starts? What conditions outside the Beneficiary's direct control have to be met for the implementation of the planned activities? |
| | **Project Activity 1:** Continue support to the implementation of countries' obligations under the Bucharest and other related Conventions and Agreements<br>**Project Activity 2:** National Pilot Studies (NPMS) - Development and implementation of NPMS for testing and harmonisation of developed by EMBLAS-I cost-effective National Black Sea Integrated Monitoring and Assessment Programmes (N-BSIMAPs) in accordance with reporting obligations under the MSFD, WFD and BSIMAP<br>**Project Activity 3:** Large scale implementation of training programmes and intercomparisons on monitoring methods and quality assurance adhering to the ISO 17025 standard<br>**Project Activity 4:** Joint Open Sea Surveys (JOSS) - Implementation of the Joint Black Sea Surveys methodology along the lines of the MSFD, WFD and BSIMAP<br>**Project Activity 5:** Upgrade and operation of the web-based Black Sea Water Quality Database<br>**Project Activity 6:** Dissemination of knowledge and best practices, public awareness and visibility | **Required means:**<br>Human resources: project manager, technical advisor, administrative support (2 persons full-time employed), national consultants-technical experts<br><br>Travels: project team and national representatives to travel to Steering Committee meetings, national trainings, capacity building activities<br><br>Equipment and supplies: basic equipment for the project office; rental costs for ships for NPMS and JOSS; rental of specific equipment for sampling<br><br>Local office costs: office rent, consumables, communication costs<br><br>Other services: publications, studies and research services provided by partner organisations including chemical analyses, translations, meeting organisation services, visibility actions; acquisition of data whose access is restricted | **Sources of information** about progress:<br>• Project Technical/Scientific reports / Project Steering Committee Meetings reports / Questionnaires / Trainings / Publications / Surveys<br><br>**Costs:**<br>Human resources: 1,052,400 EUR<br>Travels: 181,500 EUR<br>Equipment and Supplies: 201,000 EUR<br>Local office costs:117,600 EUR<br>Other Services: 993,107 EUR<br>Indirect costs: 178,193 EUR<br>TOTAL for action: 2,723,800 EUR<br><br>**Tentative budget allocations per PA** (EC contribution: 2,5 million EUR / UNDP Co-financing: 300,000 USD)<br>PA1: Support countries in implementation of Conventions - 90,000 (experts)<br>PA2: National Pilot Studies - 1,220,000 (experts, travel, ship rental, consumables, analyses)<br>PA3: Training programmes - 180,000 (experts, travels, meetings)<br>PA4: Joint Open Sea Surveys - 620,000 (experts, travel, ship rental, consumables, analyses, meetings)<br>PA5: Work on WQ Databases/BSIS - 90,000 (experts)<br>PA6: Results dissemination, visibility, public participation - 100,000 (experts, travels, meetings, translations, publications)<br>PA7: Project management activities – 200,000 (experts, travels, meeting costs) | • Continued interest by some of the beneficiary countries towards harmonisation and approximation with relevant EU environmental policy/legislation<br>• Commitment of relevant authorities/institutes to cooperate in providing data and information<br>• Availability and utilisation of outcomes of previous projects<br>• Political support to the project by relevant national authorities<br>• Beneficiary countries willing to improve their marine environmental monitoring systems<br>• Preparedness of scientific institutions to work in a harmonised way<br>• Responsiveness of Reference and other laboratories<br>• Capacity of Reference and other laboratories to apply recommended methods<br>• Willingness of other projects to cooperate<br>• Willingness of institutes with local databases of biological & chemical data to cooperate<br>• Acceptance of the Black Sea Water Quality Database for long-term maintenance ensured (provisions for handing over the database management to the beneficiaries implemented and formal agreements signed) |

# Annex G - Logical Framework for EMBLAS-Plus

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| **Intended Outcome as stated in the Regional Programme Results and Resource Framework:**<br>**Regional plan outcome 1**. Accelerating structural transformations through more effective governance systems |
| **Outcome indicators as stated in the Regional Results and Resources Framework, including baseline and targets:**<br>**Indicator 1.6.1.** Number of regional/cross-regional initiatives and partnerships aimed at providing high-quality, gender-responsive and data-driven solutions for conservation, sustainable use, and equitable access to and benefit-sharing of natural resources, biodiversity, and ecosystems<br>Baseline: 0 / Target: 5 / Data source: Partnership frameworks, project documents/reports, media reports / Frequency: Annual |
| **Applicable Output(s) from the UNDP Strategic Plan:**<br>**Output 1.6.** Solutions and regulatory frameworks to address conservation, sustainable use and equitable benefit-sharing of natural resources, developed in line with international conventions and national legislation through regional and cross-regional initiatives |
| **Project title and Atlas Project Number: Improving Environmental Monitoring in the Black Sea (Selected measures), EMBLAS-Plus** |

| Expected Outputs | **Indicators** | **Data source** | **Baseline Year/Value** | **Target -Year 1 (2018)** | **Target – Year 2 (2019)** | **Target – Year 3 (2020)** | **Targets FINAL** | **Data collection methods & risks** |
|---|---|---|---|---|---|---|---|---|
| **Overall objective:** Improved protection of the Black Sea environment. | Harmonised (MSFD / WFD BSC) monitoring programs in place in UA/GE/RF<br>Joint actions /measures for marine litter (ML) reduction implemented in UA/GE/RF<br>Events organized to increase awareness and involvement of public, stakeholders in the Black Sea protection | Revised national and regional programs<br>Data (including marine litter) in intl. marine data platforms and BSIMAP<br>Campaigns and actions / measures documented<br>Statistics on participation (individuals /institutions) | **2016/2017:**<br>Draft natl. monitoring programs available per country;<br>Joint Black Sea Surveys 2016 data available;<br>ML monitored with the EEA/JRC methodology;<br>Public campaigns (3 BS Clean Beach day 2017) | National monitoring programs revised<br>Concept for Campaigns for ML reduction for each country<br>3 events- Black Sea Clean Beach days (one in each country) - 100 people per country involved<br>Analysis of involvement of women in BS protection | 3 natl. and 1 joint monitoring surveys organized,<br>3 trainings organised (30 experts trained /50% women)<br>6 Campaigns /actions for ML reduction (2 per country), min. 50 pers., 3 institutions per country;<br>3 events BS Clean Beach day organized UA/GE/RF (one per country) - 100 people per country involved<br>Set of measures targeting women involvement in the Black Sea Protection | Natll. monitoring programs adopted in UA/GE/RF<br>Data uploaded in the BS WQD, BSIMAP, intl. marine data platforms | National monitoring programs adopted in UA/GE/RF;<br>3 natl. and 1 joint monitoring surveys organized,<br>30 national experts trained / 50% women<br>Data uploaded in the BS WQD, BSIMAP, intl. marine data platforms<br>6 Campaigns/actions for ML reduction (2 per country), min. 50 pers., 3 institutions per country;<br>BS Clean Beach day organized UA/GE/RF (2 per country), 100 people per country involved | Documents reviews, Databases checks<br>Reviews of measures /actions documentations<br>Review of statistics on participation (individuals /institutions)<br><u>Risks:</u><br>Lack of interest of the countries in joint Black Sea protection<br>Non- involvement of relevant scientific natl. institutions in the monitoring<br>Lack of involvement of education, scientific institutions, CSOs, NGOs in awareness raising<br>Lack of interest of Intl. organizations / donors to supporting activities in the Black Sea region |

| **Expected Outputs** | Indicators | Data source | **Baseline Year/Value** | Target -Year 1 (2018) | Target – Year 2 (2019) | Target – Year 3 (2020) | **Targets FINAL** | Data collection methods & risks |
|---|---|---|---|---|---|---|---|---|
| **Specific objective 1:** Improved availability & sharing of marine env. data from the natl. and joint reg. monit. programmes aligned with the MSFD, WFD, BSIMAP<br>**Result 1.** Natl. and joint reg. monitoring programs implemented | 1. Harmonized monitoring programs (compliant with EU MSFD, WFD, Bucharest Convention) endorsed, data collected by the project for 2017-2018-2019 uploaded to the BS WQD, BSIMAP | Revised natl. & reg. monitoring programs - documents<br>Data available (including ML) under international marine data sharing platforms and BSIMAP<br>Scientific Reports from surveys | **2016/2017:** Natl. monitoring programs drafted for each country, monitoring surveys 2016/2017 (EU MSFD, WFD, BSIMAP aligned) | Natl. monitoring programs revised in 3 countries | 3 natl. and 1 joint monitoring surveys organized,<br>3 trainings organised (30 experts trained /50% women) | Natl. & reg. monitoring programs endorsed UA/GE/RF<br>Scientific Reports from surveys prepared<br>Survey data uploaded to BS WQD, BSIMAP; intl. marine data platforms | Natl. & reg. monitoring programs endorsed UA/GE/RF;<br>30 natl. experts trained / 50% women<br>3 natl., 1 reg. monit. surveys organized, data uploaded in the BS WQD, BSIMAP, intl. marine data sharing platforms | Documents review, database checks<br>Reports review<br>Data available (including ML) under international marine data sharing platforms and BSIMAP |
| **Specific Objective 2:** Introduced joint actions to support reduction of the river and marine litter<br>**Result 2.** Joint monitoring and reduction of marine litter facilitated | 2. Data on ML collected and joint actions /measures for marine litter reduction proposed and implemented in each country | Data on microplastics ML<br>Campaigns/actions/ measures documentation<br>Grants awarded | **2017:** ML monitoring in line with the EEA and EC JRC methodology introduced; no specific action on ML reduction | Concepts for ML campaigns prepared | Data on ML collected during the surveys in 3 countries<br>3 campaigns / actions for ML reduction organized (one per country) | 3 Targeted campaigns / actions for ML reduction organized (one per country | Data on ML collected and analysed in 3 countries; 6 Targeted campaigns / actions for marine litter reduction organized (two per country) | Data on microplastics ML/ available, shared<br>Campaigns/actions/ measures documented;<br>Grants awarded |
| **Specific Objective 3:** Increased public involvement in the protection of the Black Sea and raised awareness on the key environmental issues;<br>**Result 3.** Environmental public awareness and education campaigns conducted | 3. Events organized to increase awareness and involvement of public, stakeholders in the Black Sea protection | Campaigns documentattion<br>Grants awarded<br>Statistics on participation | **2016/2017:** Campaigns organized (BS Clean Beach day); 6 Project partners (4 scientific, 2 academic) / No CSO / 1 intl. NGO; Project website / facebook | 3 BS Clean Beach Day events (one per country);<br>Project products:1 infogrphics, ML touring presentation | 3 BS Clean Beach Day events (one per country); | 1 brochure on scientific results of the surveys | 6 BS Clean Beach Day events (two per country); Project products: 1 infographics, 1 movie, 1 presentation on marine litter; 1 concept for touring presentation, 1 brochure on scientific results of the surveys | Campaigns documented<br>Grants awarded<br>Statistics |

| Expected Outputs | Indicators | Data source | **Baseline Year/Value** | Target -Year 1 (2018) | Target – Year 2 (2019) | Target – Year 3 (2020) | Targets FINAL | Data collection methods & risks |
|---|---|---|---|---|---|---|---|---|
| 1.1/1.2 Revised national and regional monitoring programmes prepared / implemented | 1.1.1/1.2.1 Nr. of manuals/SOPs available<br>1.1.2/1.2.2 Nr. of natl./reg. surveys<br>1.1.3 /1.2.3 Nr. of participating institutions in surveys<br>1.1.4/1.2.4 Nr. of experts participating in the surveys, manuals, DCTs work (men/women) | Manuals and Reports from the monitoring cruises, DCTs completed<br>Proposals for WFD-MSFD compliant national and regional monitoring | **2016/2017:** 3 Manuals for the NPMS and JOSS prepared, to be revised<br>First set of SOPs available (chemistry & biology), missing SOPs for novel methodologies/<br>7natl., 2 intl. institutions, 20 experts (10 women) | Revised NPMS Manual, incl. novel method, 3 new SOPs, DCTs<br>Involvement of: 7natl., 2 intl. institutions, 20 experts (10 women) | 3 natl., 1 reg. monitoring surveys<br>Involvement of: 7natl., 2 intl. institutions, 20 experts (10 women) | DCTs, Survey Reports,<br>7natl., 2 intl. institutions, 20 experts (10 women) | NPMS Manual, incl. novel method, 3 new SOPs, DCTs<br>3 natl., 1 reg. monit. surveys<br>DCTs, Survey Reports,<br>Involvement of: 7natl., 2 intl. institutions, 20 experts (10 women) | Review documents – Manuals, reports, DCTs, Monitoring programs proposals<br>Review meeting and workshop reports / minutes, training programes, list of participants<br>Checking the functionality and data in BS WQD, BSIMAP, and other intl. marine data platforms (e.g. EMOdnet, SeaDataNetm, WISE-Marine, IPCHem)<br>Review statistics on participation of experts in the surveys, individual study visits, intl. events<br>Draft documents of selected parts of Initial Assessment |
| 1.3 Data and information shared on the Black Sea environment | 1.3.1 Nr. of institutions cooperating in data sharing & info exchanges<br>1.3.2 Nr. of marine data platforms provided with the Black Sea data<br>1.3.3 Nr. institutions, experts using BS WQD (men/women) | BSIMAP document<br>Minutes of the BSC AG meetings<br>Functional BSWQD<br>Black Sea data in other marine data platforms (EMOdnet, IPCHem SeaDataNetm, WISE-Marine,) | **2016/2017:** BSIMAP (2017-2020) adopted by the BSC; WQD update prepared;<br>EMBLAS-II data in RIMMEL database, cooperation with EEA<br>7 natl., 2 intl. institutions, 14 experts using WQD (7 women) | | 7 natl., 2 intl. institutions,<br>28 experts (14 women using the BS WQD | Data upload in BSIMAP, BSIS, EEA, 3 int. marine platforms;<br>7 natl., 2 intl. institutions,<br>28 experts (14 women) | Data in BSIMAP, BSIS, EEA<br>Data in 3 int. marine platforms;<br>7 natl., 2 intl. institutions,<br>28 experts (14 women) | |
| 1.4 Strengthened capacities of the natl. institutions in the field of environmental monitoring (incl. ISO 17025 standard & use of the BS WQD) | 1.4.1 Nr. of training topics covered<br>1.4.2 Nr. of experts trained (men/women)<br>1.4.3 Nr. of experts participating in exchanges / laboratory visits / scientific events (men/women) | Trainings materials / agenda / List of participants<br>Participation of experts in the surveys, individual study visits, intl. events<br>BS WQD Manual | **2016/2017:** Trainings in EMBLAS-II -4 topics (chemistry, biology, ichthyology, ML), Training in novel methodologies missing / 40 experts trained (20 women), 5 experts (3 women) in exchanges | Draft training programes prepared (BS WQD use, novel methodologies, classification schemes) | 3 trainings organised (70 experts trained /50% women) | Trainings – 3 topics /70 experts trained (35 women), 10 experts (5 women) in exchanges | Trainings – 3 topics (BS WQD use, novel methodologies, classif. schemes)<br>70 experts trained (35 women), 10 experts (5 women) in exchanges | |
| 1.5 Countries supported in the activities related to compliance with obligations under intl. legislation and conventions | 1.5.1 Nr. of topics/issues covered<br>1.5.2 Nr. of documents accepted by the countries, (with project support) | Draft documents of selected parts of Initial Assessment<br>Organized workshop - agreed list of BS SWMIs, BS relevant pressures and inclusion of BSSPs into BSIMAP | **2017:** Delineation of coastal zones water bodies available from EMBLAS-II<br>Part of background information / data for IAs available from EMBLAS-II | Parts of Initial Assessment for GE, UA | | Draft List of BSSPs, List of SWMI<br>N-BSIMAP proposal | Parts of Initial Assessment for GE, UA<br>List of BSSPs, List of SWMI<br>N-BSIMAP proposal | |

| Expected Outputs | Indicators | Data source | **Baseline Year/Value** | Target -Year 1 (2018) | Target – Year 2 (2019) | Target – Year 3 (2020) | Targets FINAL | Data collection methods & risks |
|---|---|---|---|---|---|---|---|---|
| 2.1 Data and information on marine litter available | 2.1.1 ML / microplastics (ML/M) data available in BS WQD and other marine data platforms<br>2.1.2 Analytical reports available | Data module for marine and riverine litter in the BS WQD, Analytical report on ML and microplastics | **2017:** ML monitored, data in JRC RIMMEL database, EEA Marine LitterWatch software used | DCT for ML / microplastic | DB module ready for use | Data on ML/M in the BS WQD, analytical report prepared | **2018:** DB module (ML/microplastics) 2019/2020<br>Data in the BS WQD, analysed | Review of Data module for marine and riverine litter in the BS WQD, Database check<br>Review of the reports<br>Review of campaigns and pilots documentations<br>Review of statistics for the beach clean-up actions |
| 2.2 Awareness on ML / microplastics (ML/M) issues, good waste management practices introduced | 2.2.1 Nr. and topics of campaigns<br>2.2.2 Nr.of participants targeted by the campaigns /men, women, young | Campaigns documented<br>Statistics | **2017:** no targeted campaigns | Concept for campaigns -1 topic on ML/M per country | 1 additional concept for ML/M<br>1 campaign per country<br>500 persons (250 women) targeted | 1 campaign per country<br>500 persons (250 women) targeted | 2 topics on ML/microplastics covered by campaigns,<br>1000 persons targeted (500 women), 5 schools targeted per country | |
| 2.3 Local authorities assisted with marine litter reduction measures | 2.3.1 Nr. of organizations/institutions involved in the proposed measures<br>2.3.2 Nr. of small scale pilot activities organized | Pilot activities documented<br>Beach clean-up statistics | **2017:** Beach clean-up organized in each country during the Black Sea Clean Beach day 2016/17) | 3 Concepts for pilots (1 per country) /assisting local communities on ML reduction | 3 additional concepts<br>3 proposals for pilots implemented<br>9 institutions. involved (3 per country | 3 proposals for pilots implemented | 6 Proposals for pilots/ assisting the local municipalities,<br>9 institutions involved (3 per country)<br>6 Small pilots for ML reduction (2 per country), 5 local authorities assisted per country | |
| 3.1 Increase public awareness on the Black Sea environmental issues, public participation in environm. monitoring (EMBLAS mobile phone application “Black Sea SaveBook”) | 3.1.1 Nr. of institutions promoting / trained in Sentinels monitoring and use of the BSSB<br>3.1.2 Nr. of users (men/women)<br>3.1.3 Nr. of collected data inputs (protocols)<br>3.1.4 Nr. of actions addressing participation of women in env. protection | Trainings on BSSB organized<br>Statistics on BSSB use<br>Statistics on number of protocols | **2017:** 7 Scientific institutions involved in the Environmental Sentinels monitoring trainings<br>Mobile application “Black Sea Saveboook” developed, launched and trainings organized, 1000 protocols | 9 institutions involved in BSSB promotion<br>100 users of BS Save Book application, | 9 institutions involved in BSSB promotion<br>1000 users of BS Save Book application,<br>3 measures for women’s participation (1 per country) | 9 institutions involved in BSSB promotion<br>1000 users of BS Save Book application, | 9 institutions involved<br>300 users of BS Save Book application (150 women),<br>additional 1000 data protocols /<br>3 measures for women’s participation (1 per country) | Review of statistics on BSSB use, data protocols<br>Review of public events, campaigns documentation, media events, |

| Expected Outputs | Indicators | Data source | **Baseline Year/Value** | Target -Year 1 (2018) | Target – Year 2 (2019) | Target – Year 3 (2020) | Targets FINAL | Data collection methods & risks |
|---|---|---|---|---|---|---|---|---|
| 3.2 Involving CSO / NGOs and scientific / education institutions in the awareness campaigns – the BS Clean Beach Day, etc. | 3.2.1 Nr. of public events (BS Day, with surveys, etc.),<br>3.2.2 Nr. of topics dealt by campaigns, nr. of campaigns<br>3.2.3 Nr. of institutions active<br>3.2.4 Nr. of participants (men, women) | Public events organized<br>Concrete measures introduced | **2017:** BS Clean Beach Day UA/GE/RF<br>7 Scientific institutions involved in the BS Clean Beach Day / beach clean-up | 3 Black Sea Clean Beach Day event (1 per country)<br>Concept for 2 topics covered by enviro campaigns - good waste management / plastics), | 3 Black Sea Clean Beach Day event (1 per country)<br>3 campaigns (1 per country) /<br>9 institutions involved (3 per country), | 3 campaigns (1 per country)<br>9 institutions involved (3 per country), | 6 Black Sea Clean Beach Day event in all three countries /2 topics covered by enviro campaigns (good waste management – focus on plastics), 6 campaigns (2 per country) / 9 institutions involved (3 per country), | Evaluation of events, campaigns;<br>Statistic on website posts, visits, facebook<br>Review of promo items, Audio-visual production, presentations publications, reports,<br>Media overview, Press releases and media invites |
| 3.3 Information on the project results disseminated, project visibility enhanced | 3.3.1 Nr. of publications, audio-visual products<br>3.3.2 Nr. of posts at the project website and BS fans facebook page, number of subscribers of facebook page<br>3.3.3 Nr. of press conferences | Website posts on events<br>Promo items, educational publications / campaign materials<br>Audio-visual productions<br>Media overview, Press releases and media invites<br>Brochures / Public summaries on the project results | **2016/2017:**<br>1 educational brochure (sentinels monitoring)<br>12 facts about the BS<br>Summary on the JBSS 2016<br>3 movies on the Black Sea, 45 posts on web, 4000 website visitors, 340 facebook subscribers / 6 press conferences with surveys and project results dissemination | 1 Touring and 1 Holographic presentation on ML<br>1 Brochure on MSFD<br>20 website posts<br>200 visitors | 20 website posts<br>300 website visitors | 1 public summary on the Black Sea Surveys 2019<br>20 website posts<br>300 website visitors | 1 Short movie, 1 Touring and 1 Holographic presentation on ML, 2Infographics on the Black Sea; 1 MSFD brochure, additional 60 posts on website, 800 website visitors, 150 subscribers/<br>3 press conferences with surveys | |

# Annex H –Results table from EMBLAS II - Final Report

| Results | Indicators | Baseline and Target | Current value (2018) | Source of verification |
|---|---|---|---|---|
| **Impact: To improve the level of protection of the Black Sea environment in Georgia, Russian Federation, and Ukraine** | | | | |
| Impact 1<br>Enhanced coverage, quality, and access to relevant data in support of decision-making | *Functionality of the international web-based Black Sea Water Quality database (WQD), its population with data beyond chemical parameters, compatibility with EU systems and use by all three countries* | Baseline: 0 (2014)<br>Target: Functional web-based WQD, containing data from Surveys 2016/2017 (2018) | 1 | web-based WQD online |
| | *National Monitoring Programs aligned with the EU WFD and MSFD* | Baseline: 0 (2014)<br>Target: 3 NPM tested (2016/2017, GE, RF, UA) | 3 proposals for the national monitoring programs tested (GE, RF, UA,)<br>1 New monitoring scheme for marine waters adopted by government of Ukraine, operational as of Jan 2019 (UA) | Scientific Reports from the Surveys<br>Press release on the new monitoring system in Ukraine |
| Impact 2<br>Better implementation of countries' obligations under the Bucharest Convention and other Agreements | *Number of bilateral agreements consistent with the Bucharest Convention (Article V)* | Baseline: 0 (2014)<br>Target: N/A | 1 bilateral agreement UA-GE environmental ministries signed in Sept 2017 / Memorandum of Understanding on cooperation in the field of environmental protection of the Black Sea and its catchment | Project website<br>youtube |
| | *Number of countries involved in scientific cooperation and monitoring (Article XV)* | Baseline: 3 (2014 – GE, RF, UA = project countries)<br>Target: 6 (2018 – all Black Sea countries) | 3 project countries + experts from RO/BG/TR (directly involved in the project or through BSC Advisory Groups | Scientific and Technical Reports, |

| Results | Indicators | Baseline and Target | Current value (2018) | Source of verification |
|---|---|---|---|---|
| **Outcome 1: Legal basis, harmonization, and availability of Black Sea environmental data improved** | | | | |
| | Number of policy documents supporting process of the harmonization of the national legislation with EU standards and development of national monitoring programs (supporting EU accession process of GE and UA) | Baseline: 0 (2014)<br>Target: 3 (2017), 1 (2018) | 4 | Project Progress Reports (annexes):<br>"Delineation of transitional and coastal water bodies of Ukraine and Georgia"<br>"Road Map for MSFD Implementation" (UA)<br>"Plan for Initial Assessment" (UA)<br>"Economic Assessments of monitoring programs" |
| | Data Coverage of Descriptors specified in the EU Marine Strategy Framework Directive | Baseline: 28% (2014) -3 descriptors out of 11 (old database)<br>Target: 60% (2016-2017) | 73% (8 descriptors out of 11 | Scientific Reports from Surveys 2016-2017, BS WQD |
| | Number of new data entries in the Black Sea water quality database | Baseline: 0 (2014)<br>Target: 140,000 (2018) | 202 000 | Scientific Reports from the Surveys 2016 / 2017<br>completed DCTs (website intranet)<br>BS WQD - statistics |
| | Number of organizations using jointly agreed data collection templates | Baseline: 0 (2014)<br>Target: 7 (2018) | 7 national institutions from the BS region, 2 other institutions | Scientific Reports from the Surveys 2016 / 2017<br>completed DCTs (website intranet)<br>BS WQD |
| **Outcome 2: Capacity related to marine environmental monitoring built in relevant institutions and public awareness raised** | | | | |
| | Number of experts able to apply modern / novel monitoring techniques | Baseline: 0 (2014)<br>Target: 14 (2016-2018) – 2 per partner organization | **18 +** | list of scientific team members participating at the surveys – Technical reports from surveys<br>List of experts trained for ML monitoring, eDNA, passive sampling, metagenomic analyses |
| | Number of pupils involved in the education campaigns on environmental sentinels and BS Clean Beach Days | Baseline: 0 (2014)<br>Target: 300 (2016-2017) | **3 000** | Project website (showing the participation of pupils at various events)<br>Project Progress Reports<br>Logs to the BS Savebook game |
| | Number of people reached through communication activities | Baseline: 0 (2014)<br>Target: 70,000 (2016-2018) | **250 000 - estimation** | Overview of media coverage for the public events (in Progress Reports, project website) / average media cover: 50 - UA, 20 - GE |

| Results | Indicators | Baseline and Target | Current value (2018) | Source of verification |
|---|---|---|---|---|
| **Output 1 Support for the implementation of international obligations provided** | | | | |
| | Status of testing of the Water Quality/Good Environmental Status methodology | Baseline: No (2014)<br>Target: Tested (qualitative indicator) – in 2016 and 2017 | Tested – in 2016 and 2017 | Scientific reports from the Surveys 2016/2017 |
| | Number of scientific report on the quality of the Northern part of the Black Sea | Baseline: 0 (Year)<br>Target: 1 (2016), 1 (2017) | 1 Scient. Report - Surveys 2016<br>1 Scient. Report – Surveys 2017<br>1 Scient. Report – 12 months national monitoring studies | project website,<br>Project Progress Report (annexes) |
| | Number of public version of the scientific report available in English and national languages | Baseline: 0 (2014)<br>Target: 1 (2017) | 1 public summary "Revealing the Secrets of the Black Sea" (EN/UA)<br>1 brochure about the uniqueness of the BS Surveys: "12 Facts about the Black Sea" (EN/GE/RU/UA) | project website<br>Project Progress Reports (annexes) |
| **Output 2 National Pilot Monitoring Studies conducted in line with international benchmarks** | | | | |
| | Number of National Pilot Monitoring Studies | Baseline: 0 (Year)<br>Target: 1 (2016), 1 (2017) – in each country, 12 months monitoring program in each country | 5 NPMSs<br>1 in GE (with JOSS), 1 in UA (with JOSS), 2 in RF, carried out in for May - December 2016 / NPMS 12 months program completed in each country/ 3 NPMS coastal zones in each country in 2017 | Scientific Reports from Surveys 2016, 2017 and Reports from 12 months natl. monitoring program |
| | Number of harmonized methodologies (Standard Operational Procedures) for sample collection | Baseline: 0 (Year)<br>Target: 25 (2016-2017) | 25 SOPs (20 chemistry and 5 biology) | Technical Report from the Surveys 2016 - annexes |

| Results | Indicators | Baseline and Target | Current value (2018) | Source of verification |
|---|---|---|---|---|
| **Output 3 Large-scale training of national experts ensured** | | | | |
| | Number of inter-comparisons organised | Baseline: 0 (2014)<br>Target: 3 (2016) / 3 (2017) | 9 (6 in 2017, 3 in 2017)<br>2016 intercomparisons: Chemical -6 labs, Phytoplankton – 6 labs, Chlorophyll-a – 5 labs, Zooplankton – 5 labs, Macrozoobenthos – 5 labs, Macrophytobenthos – 5 labs<br>2017 intercomparisons: Phytoplankton – 6 labs, Zooplankton – 6 labs, Macrophytobentos – 5 labs) | Scientific Reports from Surveys 2016, 2017 – results of intercomparisons |
| | Number of harmonization workshops | Baseline: 0 (2014)<br>Target: 1 (2016), 1 (2017) | 2 workshops – one before the surveys 2016, one before surveys 2017 (to assess the results 2016) | Project Progress Reports<br>Project website |
| | Number of participants in trainings/workshops | Baseline: 0 (2014)<br>Target: 42 (2016-2017) - 6 per partner org. | Total 52 experts involved | List of participants from the trainings and workshops |
| | Number of women participating in trainings/workshops | Baseline: 0 (2014)<br>Target: 21 (2017-2018) | 25 women involved | List of participants from the trainings and workshops |
| **Output 4 Joint Black Sea Surveys – open sea organized** | | | | |
| | Number of open sea surveys organized | Baseline: 0 (2014)<br>Target: 1 (2016), 1 (2017) | 2 JOSS organized (3 countries involved) in 2016 and 2017 (JOSS UA/GE + JOSS RF) | Project website<br>Scientific Reports from Surveys 2016 and 2017 |
| | Number of chemicals screened | Baseline: 0 (2014)<br>Target: 45 WFD substances , 70 BS specific suspected substances (2016-2017) | 45 WFD priority substances,<br>>70 Suspected BS Specific Substances (JRC);<br>>2100 target suspected substances (UoA)<br>>14000 suspected non-target substances;<br>> 30 substances screened by passive sampling | Scientific Reports<br>BS WQD |
| | Number of novel methodologies applied | Baseline: 0 (2014)<br>Target: 5 (2016) – ML, hypoxia, passive sampling, large volume sampling, metagenomics<br>2 (2017) – eDNA, Microplastics | 7 new methodologies used during surveys 2016/2017 | Scientific Reports from the Surveys 2016 /2017 |
| | Number of sampling sites | Baseline: 0 (Year)<br>Target: 55 (2016/2017) | Total number of sampling sites: 55 | Scientific and Technical Reports from the Surveys 2016 /2017 |

| Results | Indicators | Baseline and Target | Current value (2018) | Source of verification |
|---|---|---|---|---|
| **Output 5 The web-based Black Sea Water Quality Database upgraded and operational** | | | | |
| | Number of additional sub-modules developed | Baseline: 0 (2014)<br>Target: 13 (2018) | 13 | Online BS WQD<br>Project progress reports |
| | Web-based (on-line) database designed & tested | Baseline: 0 (2014)<br>Target: 1 (2016-2018) | 1 | Online BS WQD |
| | Number of new Data Collection Templates (DCTs) | Baseline: 0 (2014)<br>Target: 9 (2016-2017) | 9 | DCTs available for the data providers / institutions participating at surveys |
| **Output 6: Level of knowledge, public awareness, and visibility increased** | | | | |
| | Number of specific products / campaigns supporting involvement of public in environmental monitoring | Baseline: 0 (2014)<br>Target: 1 campaign on "Sentinels monitoring" (1 event in each country (2016) | **1 Sentinels monitoring education campaign** – 1 event in GE / 2 events in RF and 2 events in UA (within the Black Sea Clean Beach day)<br>**1 mobile phone application –** for android and iphone, in natl. languages and English, 1000 protocols collected | Sentinels monitoring brochure<br>Project website |
| | Number of videos/cartoons | Baseline: 2 movies (2007) – produced within BSERP<br>Target: 1 movie on surveys in 2016, 1 movie on surveys in 2017 | Total 4 movies produced by EMBLAS-II:<br>- "NPMS/JOSS GE-UA surveys 2016" (EN, UA, GE)<br>- "Zernov's Phyllophora fields" (EN, UA).<br>- "Just like Humans" – underwater life stories of the Black Sea (EN)<br>- "BS Savebook Game" – social add ( | Project website, youtube |
| | Number of press conferences | Baseline: 0 (Year)<br>Target: 2 in 2016, 2 in 2017 | Total 7 press-conferences organized | project website<br>Project Progress Report - press releases / media information (annex) |
| | Number of publications to disseminate the project results | Baseline: 1 booklet– about EMBLAS-I (2014)<br>Target: | 4 key publications:<br>- Environmental sentinels brochure in RU/EN UA/EN and GE/EN (educational)<br>- Booklet about Joint BS Surveys (in GE/UA for surveys 2016<br>- 12 facts about the Black Sea (in EN, GE, UA)<br>- Revealing the secrets of the Black Sea - public summary report on the results of the BS Surveys 2016 | project website,<br>EC progress reports (annexes) |
| | Number of infographics produced | Baseline: 0 (2014)<br>Target: 2 (2017) | Total 3 infographics produced:<br>- "The Black Sea at a Glance" (EN, GE, RU, UA)<br>- "New system of monitoring of marine waters" (UA)<br>- Infographics about the Black Sea Save Book Game / Black Sea Guarding Angel (EN, RU, UA) | project website,<br>EC progress reports (annexes) |
| | Number of Black Sea Days events | Baseline: 0 (2014)<br>Target: 3 in 2016, 3 in 2017 (one per country) | Total BS Days events organized (combined with education and beach clean-up activities): 6 | project website |