



*Empowered lives.
Resilient nations.*

Improving Environmental Monitoring in the Black Sea (EMBLAS-I)

Final Report

ENPI/2012/293-589

1 January 2013 – 31 March 2015



September 2015

Project funded by the European Union and UNDP

Date of report: 30 September 2015

Reporting period: 1 January 2013- 31 March 2015

Project partners:

- Marine Hydrophysical Institute (**MHI**) – Ukraine;
- Odessa National I.I.Mechnikov University (**ONU**) - Ukraine;
- Ukrainian Scientific Center of Ecology of the Sea (**UkrSCES**) – Odessa, Ukraine;
- A.O.Kovalevskiy Institute of Biology of Southern Seas (**IBSS**) – Sevastopol, Ukraine;
- Odessa Branch, Institute of Biology of the Southern Seas, National Academy of Sciences of Ukraine (**OB-IBSS**) – Ukraine;
- Iv.Javakhishvili Tbilisi State University (**TSU**) – Georgia
- National Environmental Agency “Black Sea Monitoring Center” (**NEA**) – Tbilisi, Georgia;
- State Oceanographic Institute (**SOI**) – Russia ;
- P.P.Shirshov Institute of Oceanology Russian Academy of Sciences (**SIO-RAS**) - Russia;
- Permanent Secretariat of the Black Sea Commission (**BSC PS**) – international

Disclaimer: This document has been produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

Table of content

Executive Summary	7
1. Introduction.....	10
2. Summary and context of the Project	11
2.1 Project Background	11
2.2 Objectives of the Project	11
2.3 Summary of key achievements	12
3. Project Management and Cooperation Arrangements	15
4. Activities and results.....	21
4.1 Project Activity 1: Review of the national monitoring systems and of the methodological tools for assessing marine environmental data	21
4.2 Project Activity 2: Support to the implementation of countries obligations under the Bucharest and other related Conventions and Agreements.....	23
4.3 Project Activity 3: Development of cost-effective and harmonised biological and chemical monitoring programmes in accordance with reporting obligations under multilateral environmental agreements, the WFD and the MSFD	24
4.4 Project Activity 4: An assessment of needs regarding laboratory infrastructure, equipment, and training.....	25
4.5 Project Activity 5: Elaboration and implementation of a first training programme round on monitoring methods and quality assurance adhering to ISO 17025 standard	26
4.6 Project Activity 6: Prepare the methodology for Joint Black Sea Surveys	27
4.7 Project Activity 7: Development of the web-based Black Sea Water Quality Database prototype.....	28
4.8 Project Activity 8: Dissemination of Knowledge and Best Practices, Public Awareness and Visibility.....	30
4.9 Project Activity 9: Management and coordination of the Action	31
5. Emerging Challenges and Measures Taken.....	33
6. Lessons learned and recommendations for the next phase.....	34

List of Annexes

Annex 1	EMBLAS Diagnostic Report-II
Annex 2	Draft Compliance Indicators Report
Annex 3	Towards Good Environmental Status of the Black Sea - Methodology
Annex 4	Analysis of Georgian legislation/policy as related to the EU-Georgia Association Agreement in support of the MSFD transposition
Annex 5	Draft Revised National Monitoring Programs
Annex 5.1	Draft Revised National Monitoring Programs – Georgia
Annex 5.2	Draft Revised National Monitoring Programs – Russian Federation
Annex 5.3	Draft Revised National Monitoring Programs – Ukraine
Annex 6	Biological Guidelines
Annex 6.1	Biological Guidelines -Mesozooplankton
Annex 6.2	Biological Guidelines - Macrophytobentos
Annex 6.3	Biological Guidelines - Microzooplankton
Annex 6.4	Biological Guidelines - Macroplankton
Annex 7	Training program and summary on the 1 st training
Annex 8	Methodology for Joint Black Sea Survey
Annex 9	Development of the Black Sea Information System Databases
Annex 9.1	Concept on the proposed developments of the Water Quality Database and information exchange with other data management infrastructures
Annex 9.2	Manual (Guidance document) on the Water Quality Database use and data upload
Annex 10	Further development of the Black Sea Information System
Annex 10.1	Technical Assessment of the Black Sea Information System
Annex 10.2	Concept for further Development and Implementation of the Black Sea Information System
Annex 11	Project visibility
Annex 11.1	Project Dissemination Plan
Annex 11.2	Project Leaflet, Newsletter, press information
Annex 12	Project events
Annex 12.1	List of events, minutes
Annex 12.2	National Stakeholder Workshops
Annex 13	Project documentation
Annex 13.1	Description of the Action
Annex 13.2	Inception Report of EMBLAS-I
Annex 13.3	1st Progress Report (incl. annexes)
Annex 13.4	Risk Analysis
Annex 14	Project Evaluation
Annex 14.1	UNDP Terminal Evaluation Report
Annex 14.2	UNDP Management Response
Annex 14.3	Exit Strategy

Abbreviations

ARENA	EC FP6 Project: A Regional Capacity Building and Networking Programme to Upgrade Monitoring and Forecasting Activity in the Black Sea
B2B	Baltic to Black (EC DG Env. Project, implemented by the BSC in cooperation with HELCOM)
BS	Black Sea
BSC	Black Sea Commission (Commission on the Protection of the Black Sea Against Pollution)
BSERP	UNDP-GEF Black Sea Ecosystem Recovery Project
BSGOOS	Black Sea Global Operational Observation Systems
BSIS	The Black Sea Information System
BSIMAP	Black Sea Integrated Monitoring and Assessment Programme
CBD	Conservation of Biodiversity
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)
COST	European Cooperation in Science and technology
DEVOTES	EC FP7 Project: Development of innovative tools for understanding marine biodiversity and assessing good environmental status
DG	Directorate General
DoA	Description of action
DQC	Data Quality Control (Flagging)
EC	European Commission
EEA	European Environment Agency
EMODNET	European Marine Observation and Data Network project
ENPI	European Neighborhood Policy Instrument
EPIRB	Environmental Protection of International River Basins project
ESAS	Environment Safety Aspects of Shipping
EU	European Union
FOMLR	Fishery and Other Marine Living Resources
GE	Georgia
GEF	Global Environment Facility
GES	Good Environmental Status
HELCOM	Helsinki Commission (Baltic Sea Convention)
ICZM	Integrated Coastal Zone Management
ISO	International Organization for Standardization
LBS	Land-based Sources (of pollution)
LoA	Letter of Agreement
LogFrame	Logical Framework
MISIS	MSFD Guiding Improvements in the Black Sea Integrated Monitoring System project
MONINFO	Monitoring and Information Systems for Reducing Oil Pollution (EU DG Env. Project, implemented by the BSC)
MSFD	EU Marine Strategy Framework Directive
MyOCEAN	EC FP7 Project: Ocean Monitoring and Forecasting
NAS	National Academy of Science

NFP	National Focal Point
QA/QC	Quality Assurance / Quality Control
PA	Project Activity
PCO	Project Coordination Office
PERSEUS	Policy-oriented marine environment research in the southern European Seas
PMA	Pollution Monitoring Assessment
PO	Partner Organizations
SC	Steering Committee
SeaDataNet	Pan-European Infrastructure for ocean and marine data management
SeasEra	EU FP7 Era-Net Project: Toward Integrated Marine Research Strategy and Programmes
SEIS	Towards a Shared Environmental Information System (EEA regional programme)
SOP	Standard Operating Procedure
RU	Russian Federation
ToR	Terms of Reference
UA	Ukraine
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WISE	EEA Water Information System for Europe (Marine – for the Seas)
WFD	EU Water Framework Directive
WQ	Water Quality

Executive Summary

The EU-UNDP Project “Improving Environmental Monitoring in the Black Sea” (EMBLAS-I) is the first part of a two-phase joint initiative of the EU and UNDP in the Black Sea region, in the frame of the ENPI East Regional Programme (Strategy Paper 2007-2013).

The project has been implemented by UNDP in cooperation with 10 partner organizations – 9 national scientific institutions from the project beneficiary countries Georgia, Russian Federation and Ukraine and 1 international institution - Black Sea Commission Permanent Secretariat. The Project is co-financed by the European Union¹ and UNDP with total budget of 1,063,200 EUR². The Project has been initially planned for duration 1st January 2013- 31st December 2014, however the implementation period has been extended by 3 month. Therefore the project has been finalized on 31st March 2015.

The overall objective of the project was to set up initiatives that will help improve the protection of the Black Sea environment, i.e. to create basis for a larger technical intervention during the 2nd phase. The project is addressing the overall need for support in protection and restoring the environmental quality and sustainability of the Black Sea.

The specific objectives are as follows:

- Improve availability and quality of data on the chemical and biological status of the Black Sea, in line with expected MSFD and Black Sea Strategic Action Plan needs;
- Improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account abovementioned Black Sea Diagnostic Report

The following core Project Activities (PA) have been carried out:

- PA1: Review of the national monitoring systems and methodological tools for assessing marine environmental data;
- PA2: Support to implementation of countries obligations under the Bucharest and other related Conventions and Agreements;
- PA3: Development of cost-effective and harmonised biological and chemical monitoring programmes in accordance with reporting obligations under multilateral environmental agreements, the WFD and the MSFD;
- PA4: An assessment of needs regarding laboratory infrastructure, equipment, and training;
- PA5: Elaboration and implementation of a first training programme on monitoring methods and quality assurance adhering to ISO 17025 standard ;
- PA6: Prepare methodology for Joint Black Sea Surveys;
- PA7: Development of the web-based Black Sea Water Quality Database prototype.

In addition there were two PA, aimed at the visibility and project management:

- PA8: Visibility and dissemination
- PA9: Project management and coordination

¹ Decision N°: ENPI/2011/022-991; Budget line: B2011-19.080103.

² EC-UNDP Contribution Agreement no ENPI/2012/293-589

The project was aimed to strengthen capacities of the respective national authorities for biological and chemical monitoring of water quality in the Black Sea, in line with EU water related legislation (EU WFD and MSFD). Significant effort were planned for training and capacity building activities. In order to promote the project ownership a number of local experts from partner organizations and have been engaged. Relevant results and experiences of previous and ongoing projects and initiatives in the region were taken into account.

Key results

EMBLAS-I, as a preparatory phase of a larger technical program in the Black Sea region, has focused mostly on the analytical work, preparation of the guiding documents, working with policies, concepts and initial capacity building.

The **Black Sea Diagnostic Report –II** was the one of the major documents, which provides detailed analysis of situation in the three beneficiary countries – Georgia, Russian Federation and Ukraine. It is also complementing the work of the EU funded MISIS project, where the Diagnostic Report has been prepared for other Black Sea countries – Bulgaria, Romania and Turkey.

The Diagnostic Report – II contains information on the policy/legal/institutional frameworks of environmental monitoring, types of implemented monitoring, status of operational (real-time) monitoring, parameters measured, gaps between the parameters monitored under the Black Sea Commission programme (BSIMAP) and those of the MSFD, monitoring networks design, detail analysis of Black Sea data/information availability in GE, RU and UA, data management specifics and availability of Black Sea assessments, progress in water/ecological quality/GES classifications development, trainings and harmonization process status with respective needs identification, etc. The Diagnostic Report II represents an essential reference document for undertaking further actions in the framework of EMBLAS-II.

In the context of the needed support with the implementation of national reporting obligations towards the Bucharest Convention and other Convention and Agreements the project dealt with the indicator based reporting and harmonization of national policies related to water quality/good environmental status in the context of EU MSFD. EMBLAS-I produced draft version of **Compliance indicator report** and report on Good Environmental Status in the Black Sea - Methodology in close cooperation with the Black Sea Commission Secretariat. An ad-hoc support was provided to Georgia through Analysis of Georgian legislation/policy in relation to Association Agreement and MSFD transposition.

In order to support the beneficiary countries in preparation of a cost-effective and harmonised marine environmental MSFD- and WFD-compliant biological and chemical monitoring programmes the EMBLAS-I carried out a number of preparatory activities to prepare a baseline for the collection of sufficient monitoring data for ecological and chemical status assessment. As a result the draft **National Revised Monitoring Programmes** for each of the beneficiary country and the **Biological Monitoring Guidelines** to be applied in the countries were prepared. The proposed monitoring programs were presented at the National Stakeholder Workshops organized in Georgia, Russia and Ukraine. The prepared documents will be a basis for organization of the national monitoring cruises in the coastal area of the Black Sea during EMBLAS-II, as a pilot testing of the proposed programs, providing also sufficient, quality controlled and comparable data sets for the assessment of the Black Sea environmental status.

EMBLAS-I + II is aimed on improvement partner countries' ability to perform marine environmental monitoring along MSFD, therefore specific attention will be given to the capacity building activities. A **Training program for chemistry**, addressing the need to agree on standard operational procedures adhering to ISO 17025, QA/QC and data quality control (DQC) has been prepared in EMBLAS-I on the basis of the needs assessment carried out during the project. The 1st Training in chemistry was a pilot activity in a larger scale training plan to be implemented in the phase 2, where the focus will be also on biology, and ichthyology.

In order to facilitate monitoring of the whole ecosystem of the Black Sea and assist countries with collection of reliable information for environmental assessment of the sea the EMBLAS-II will implement joint monitoring surveys in the open sea part of the Black Sea. To prepare this activity EMBLAS-I produced the draft **Joint Black Sea Survey Methodology** that should be seen as a framework document for the surveys implementation.

Further upgrade of the Black Sea Information System (BSIS) and its components is one of the key priorities for the EMBLAS. An online on-line Black Sea Water Quality Database (BS WQD) is one of the elements which will allow storage of the monitoring data already collected and newly collected during the project. In EMBLAS-I a **web portal prototype for BSIS** was designed, developed and hosted at the BSC website. A **Concept for the BS Water Quality Database** as an upgrade of the BSIS Pollution database has been prepared with a **Manual (Guidance document) on the WQD use and data upload**. A **Concept for further Development and Implementation of the BSIS** was prepared to discuss further directions of work needed for the BSIS.

1. Introduction

The present document is a Final Report of the EU-UNDP project "Improving Environmental Monitoring in the Black Sea – EMBLAS, Phase 1", Contribution agreement no ENPI/2012/293-589, implemented by UNDP Istanbul Regional Hub (formerly Bratislava Regional Center) with support of the UNDP Country offices of Georgia, Russian Federation and Ukraine.

The current report provides an overview on all activities implemented out during the project implementation period 1 January 2013 – 31 March 2015 as per the EU-UNDP Contribution Agreement no ENPI/2012/293-589.

It should be noted that the Agreement was subject to one formal Addendum which has formalized 3 months no cost extension of the project. The extension of implementation period was required to ensure necessary time to finalize and consolidate the results of the project and activities and to recover a slight delay in project implementation caused by political situation in Ukraine. The Addendum also included revision of the project budget, to reflect the implementation modalities, in particular the project staffing and related costs,

Short background information is provided in the Chapter 2. "Summary and context of the project", including an overview of project objectives and summary of the key achievements. Chapter 3. "Project management and implementation arrangements" summarizes the process of project implementation, adjustments of work plans as well as cooperation & coordination with project partners and stakeholders.

Chapter 4 "Activities and results" is providing details on each of the Project Activity – short background and on the work carried out.

An overview of challenges, issues raised during the project implementation and how they were addressed is described in Chapter 5. "Emerging challenges".

The Chapter 6. "Lessons learned" briefly summarizes the experience from the project implementation, how they should be reflected in the next phase of the project.

Chapter 7. "Financial Report provides an overview of project expenditures incurred during the implementation period of the project, the reporting is in line with the Annex III. Budget of the Action to the Special Conditions of the Contribution Agreement no ENPI/2012/293-589.

2. Summary and context of the Project

2.1 Project 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 is considered to be a management target of high priority. Further coordination in policies and legislation between the Black Sea countries is also of common interest to the EU's partners countries – being also members of the Black Sea Commission (BSC) - in so far it influences their own ability to comply with EU legislation and policies, notably the EU Water Framework Directive (WFD) and the EU Marine Strategy Framework Directive (MSFD).

2.2 Objectives of the Project

The overall objective of the project is to set up initiatives that will help improve the protection of the Black Sea environment. The project is addressing the overall need for support in protection and restoring the environmental quality and sustainability of the Black Sea.

The specific objectives are as follows:

- i) Improve availability and quality of data on the chemical and biological status of the Black Sea, in line with expected MSFD and Black Sea Strategic Action Plan needs;
- ii) Improve partner countries' ability to perform marine environmental monitoring along MSFD principles, taking into account the Black Sea Diagnostic Report (http://www.blacksea-commission.org/_publ-BSDiagnosticReport2010.asp).

The following activities were planned to be carried out:

- i) Review of the national monitoring systems and tools for assessing data obtained from monitoring activities;
- ii) Support to implementation of countries obligations under the Bucharest and other related Conventions and Agreements;
- iii) Development of cost-effective and harmonised biological and chemical monitoring programmes in accordance with reporting obligations under multilateral environmental agreements, the WFD and the MSFD;
- iv) Assessment of needs regarding laboratory infrastructure, equipment, and training, promotion of the recommendations;
- v) Elaboration and implementation of the comprehensive training programme on monitoring methods and quality assurance aiming at adhering to ISO 17025 standard, promotion;
- vi) Prepare methodology for Joint Black Sea Surveys;
- vii) Development of the web-based Black Sea Water Quality Database prototype.

The project was expected to strengthen capacities of the respective national authorities for biological and chemical monitoring of water quality in the Black Sea, in line with EU water related legislation (EU WFD and MSFD). Significant effort were put into training and capacity building. In order to promote ownership, local experts and organizations were engaged. Relevant results and experiences of previous and ongoing projects were taken into account.

2.3 Summary of key achievements

According to the Terminal Evaluation of the 1st phase of the project (EMBLAS-I), in general most of the planned results were achieved, considering that EMBLAS-I is a preparatory project for a larger technical support. It has successfully provided a good basis for phase two implementation.

In the frame of the **PA 1: "Review of the national monitoring systems and the methodological tools for assessing marine environmental data"** and **PA 4: "Assessment of needs regarding laboratory infrastructure, equipment and training"** a large scale analytical work has been undertaken. **The Black Sea Diagnostic Report II** (Annex 1) has been prepared, containing information on the policy/legal/institutional frameworks of environmental monitoring, types of implemented monitoring, status of operational (real-time) monitoring, parameters measured, gaps between the parameters monitored under the Black Sea Commission programme (BSIMAP) and those of the MSFD, monitoring networks design, detail analysis of Black Sea data/information availability in GE, RU and UA, data management specifics and availability of Black Sea assessments, progress in water/ecological quality/GES classifications development, trainings and harmonization process status with respective needs identification, etc.

The report contained proposals for the further development of the institutional framework in the field of marine environmental monitoring as well as for the strengthening of competent authorities' monitoring capacity, the establishment of mechanisms of interaction between state institutions responsible for monitoring, data sharing procedures, etc. The Diagnostic Report II represents an essential reference document for undertaking further actions in the framework of EMBLAS-II.

The **PA2: "Support to the implementation of countries obligations under the Bucharest and other related Conventions and Agreements"** was aimed to provide support to the Black Sea Commission and the countries with the indicator based reporting and harmonization of national policies related to water quality/good environmental status in the context of EU MSFD. EMBLAS-I produced draft version of **Compliance indicator report** (Annex 2) and report on **Good Environmental Status in the Black Sea - Methodology** (Annex 3) in close cooperation with the BSC Secretariat. In the next project phase both documents need to be further developed and discussed with the relevant experts of the BSC Advisory Groups. In addition an ad-hoc support has been provided to Georgia through **Analysis of Georgian legislation/policy in relation to Association Agreement and MSFD transposition** (Annex 4).

In the **PA 3: "Development of cost-effective and harmonised biological and chemical monitoring programmes in accordance with reporting obligations under multilateral environmental agreements, the WFD and the MSFD"** the project prepared a baseline for the collection of sufficient monitoring data for ecological and chemical status assessment in line with the requirements of the WFD and MSFD. EMBLAS-I prepared draft **National Revised Monitoring Programmes** (Annex 5) for each of the beneficiary country and the **Biological Monitoring Guidelines** (Annex 6) to be applied in the countries. **National Stakeholder Workshops** (Annex 12) were organized in February-March 2015 in the project beneficiary countries – Georgia, Russia and Ukraine, with aim to discuss with the stakeholders the outcomes of the project, in particular the revised monitoring programs, introduce the 2nd phase of the project and inform about the planned activities.

The **PA 5: "Elaboration and implementation of a first training programme round on monitoring methods and quality assurance adhering to ISO 17025 standard"** focused on initiation of capacity building and training activities addressing the need to agree on standard operational procedures adhering to ISO 17025, QA/QC and data quality control (DQC). EMBLAS-I prepared **a Training programme** (Annex 7) and relevant materials, based on the findings of activities related to needs

assessment for trainings and capacity building. A training on the "Chemical Methods of Marine Environment Objects Analyses" has been organized. A list of recommended SoPs has been prepared and QA/QC & DQC Guidelines from other projects were made available at the project intranet for sharing among the project partner organisations.

In the frame of the **PA 6 "Prepare the methodology for Joint Black Sea Surveys"** the project focused on preparation of methodology to be used by partner countries' relevant institutions for performing Joint Black Sea Surveys (planned in 2nd phase), on the basis of available practices and taking into consideration the specifics of the Black Sea region. EMBLAS-I produced the draft **Joint Black Sea Survey Methodology** (Annex 8) that should be seen as a framework document for the surveys implementation.

The **PA 7. "Development of the web-based Black Sea Water Quality Database prototype"** provided a basis for an on-line Black Sea Water Quality Database (BS WQD), which will allow storage of the monitoring data already collected and newly collected during the project, with focus on upgrade of the Black Sea Information System (BSIS). In EMBLAS-I a **web portal prototype for BSIS** was designed, developed and hosted at the BSC website. A **Concept for the BS Water Quality Database** (Annex 9) as an upgrade of the BSIS Pollution database has been prepared with a **Manual (Guidance document) on the WQD use and data upload** (Annex 9). A virtual workshop on the BS WQD prototype was organised. An overview of interaction between the central BS WQD and other regional data management infrastructures has been prepared as well. To support further development of the Black Sea Information System (BSIS) a **Technical Assessment of the BSIS** (Annex 10) has been prepared as well as a **Concept for further Development and Implementation of the BSIS** (Annex 10).

The **PA 8: "Dissemination of knowledge and best practices, public awareness and visibility"** was aimed on initial activities related to the development of the project ownership, visibility and dissemination of the project interim results. The basic elements related to the project visibility were established – website with intranet, logo, leaflet and newsletters (Annex 11). The **Project Dissemination Plan** (Annex 11) has been prepared to outline the visibility and project results dissemination activities.

The **PA 9: "Management and coordination of the project"** ensured implementation of the project from the administrative point of view, preparation of relevant progress reports according to the donor requirements and facilitating cooperation and coordination with the project partners and other stakeholders (Annex 13). In the frame of this Project Activity an independent evaluation has been carried out (Annex 14), which provided an assessment of project results and recommendations for the implementation of the 2nd phase of the project.

The results of the EMBLAS-I / the key deliverables are to be followed-up in the EMBLAS-II:

- Diagnostic Report/Part I and II - To be taken into consideration for planning the pilot studies, cruises and capacity building;
- National Stakeholder workshops (GE, RU, UA) - Conclusions to be followed where relevant;
- List of compliance indicators and Water Quality/GES Classification Methodology - To be further elaborated;
- Draft revised monitoring programmes - they are in the different stage of the development, but they create a basis for the national pilot studies, EMBLAS-II will continue with the development;
- Biological guidelines (biological monitoring) on the webpage – the finalized ones are to be submitted to the BSC Advisory Groups for endorsement and some need to be further developed;
- Training Program, 1st training on chemistry, materials for training and training evaluation - Basis for the next trainings, further development according to the needs;

- Set of SOPs, QA/QC and DQC Guidelines available at the EMBLAS intranet- To be regularly updated according to the needs;
- Joint Survey Methodology - basis for the planning of the surveys;
- Designing and developing the web-portal of BSIS (on the BSC webpage) - To continue with the development;
- Concept on the proposed developments of the WQ, Mnemiopsis and Phytoplankton components of BSIS, functional and technical specifications / Web-based WQ system prototype, Mnemiopsis and Phytoplankton data bases – the major part of the work will be done in EMBLAS-II
- Manual (Guidance document) on the WQ database use and data upload - To continue with further development with WQ database
- Concept for the long-term maintenance of BSIS and interaction between the central BS Water Quality Database and other BS regional data management infrastructures - To be further developed

3. Project Management and Cooperation Arrangements

The EU-UNDP project "Improving Environmental Monitoring in the Black Sea" project was implemented by UNDP through its Regional Centre for Europe and CIS (Bratislava Regional Center, which has been relocated to UNDP Istanbul Regional Hub in 2014 (IRH)). UNDP IRH covered the overall project management and has been supported by the UNDP Country offices of Georgia, Russian Federation and Ukraine.

Project Coordination Office and core team.

The Project Office was established in Odessa, as it was specified in the DoA and because most of the Partner Organizations were from Ukraine. The office has been equipped with basic furniture and necessary IT equipment (4 laptops, 1 printer, 2 screens, 2 docking stations), which will be further used in the EMBLAS-II project.

The Project Manager and Project Assistant were recruited locally by UNDP Ukraine. Project Manager's role was to be the liaison for managing relations with the national representatives appointed by the ministries / Black Sea Commissioners during the project implementation.

The Project Manager was supported by the Water Program Analyst based at UNDP Regional Centre, on issues related to procurement, recruitment, budgeting and reporting towards EC. From the substantive point of view, the Project Manager was guided, and supported by the project Technical Advisor. The overall strategic oversight of the project was provided by UNDP Regional Technical Advisor for International Waters. Three UNDP Country Offices provided contributions from their Environmental and Energy Practices and administrative staff – mainly as quality assurance and support in interactions with other activities and high-level political processes.

Project Steering Committee

A Steering Committee (SC) of the project has been established in order to provide general management and coordination, and to facilitate the implementation of the project. The Committee included the Commissioners of Georgia, Russia and Ukraine in the Commission on the Protection of the Black Sea Against Pollution (BSC), BSC Permanent Secretariat Executive Director, and managers in charge of the project for the European Commission and UNDP (UNDP Regional Centre Bratislava/Istanbul and UNDP Country offices in the project beneficiary countries). The first Steering Committee meeting was held on 11th June 2013 in Odessa, Ukraine, back to back with the project Inception Workshop. The 2nd Steering Committee was organized in November 2014. (Minutes from the SC meetings are in the Annex 12.)

Project Partners

UNDP has been the leading organization of the project, responsible for the overall management of the project. The project implementation has been supported by Partner Organizations, which provided specific expertise, in particular for chemical and biological monitoring and status assessment, environmental information systems and data management.

The roles and responsibilities of the Partners within the project activities have been outlined in the Description of the Action, and further specified in the Inception Report. All partners are involved in the national or other monitoring programmes and they are public scientific organizations (except UNDP/IRH and BSC PS), well known and recognized in the region and have participated in many EU funded projects related to Black Sea protection and environmental monitoring.

The cooperation of UNDP and the partner organizations was formalized through the Letters of Agreement (standard cooperation arrangements between UNDP and governmental / intergovernmental organizations).

The project partners are the following:

N	Project Partners	Characteristics
1	Marine Hydrophysical Institute (MHI) – Ukraine	Public Scientific institution
2	Odessa National I.I.Mechnikov University (ONU) - Ukraine	Public Scientific institution
3	Ukrainian Scientific Center of Ecology of the Sea (UkrSCES) - Odessa, Ukraine	Public Scientific institution
4	A.O.Kovalevskiy Institute of Biology of Southern Seas (IBSS) - Sevastopol, Ukraine	Public Scientific institution
5	Odessa Branch, Institute of Biology of the Southern Seas, National Academy of Sciences of Ukraine (OB-IBSS) – Ukraine	Public Scientific institution
6	Iv.Javakhishvili Tbilisi State University (TSU) – Georgia	Public Scientific institution
7	National Environmental Agency “Black Sea Monitoring Center” (NEA) - Tbilisi, Georgia	Public Scientific institution
8	State Oceanographic Institute (SOI) - Russia	Public Scientific institution
9	P.P.Shirshov Institute of Oceanology Russian Academy of Sciences (SIO-RAS) - Russia	Public Scientific institution
10	Permanent Secretariat of the Black Sea Commission (BSC PS) - international	International organization

National and International Experts

Besides the Partner Organizations the project implementation has been supported also by a team of 15 national experts and 1 international experts, which are specialized in monitoring, data management, databases, QA/QC, DQC, information system development, national legislation and policy. The experts have been hired through UNDP Regional Centre.

National Focal Points

The project implementation has been also supported by the National Focal Points (NFP) from Georgia, Russian Federation and Ukraine. The NFP had a specific and important role in the project implementation, in particular:

- Ensure advocacy and support to the implementation of the project;
- Liaise with Ministry of Environment and in particular with the Commissioner in the BSC;
- Provide country based support to the Project manager, to the partners in his/her country and national experts where necessary;
- Make available local background information needed for achieving project goals;
- Liaise with key national stakeholders and other interested parties;
- Ensure wide dissemination of project deliverables;
- Work toward project ownership development and visibility of the project activities.

Cooperation with other projects

The EMBLAS-I has established contacts with several international projects like MISIS, EPIRB, SEIS and participates in information exchange with FP7 projects in Med and Black Sea regions.

MISIS and EPIRB projects are important for further scaling and coordination of EU funded initiatives in the region and for achieving overall sustainability of results. There was a close cooperation between the MISIS and EMBLAS Project. The planned activities of EMBLAS are harmonized with MISIS project (beneficiaries are Turkey, Bulgaria and Romani), this was achieved through consultations between the project and coordinated by EMBLAS-I Technical Advisor. Due to the harmonization of activities of both projects, there are certain results from MISIS that are consistent with those of EMBLAS. In this way, the whole Black Sea basin is covered. In particular the Diagnostic Report II has similar structure, the work on the PA3 work in GE, RU and UA closely

The experts/partners of EMBLAS participated in MISIS activity, related to updating the lists of the Black Sea experts in microbiology, phytoplankton, microalgae, zooplankton, zoo benthos, fish, etc. Also based on the agreement between MISIS and EMBLAS Partner organizations, ONU, during the MISIS Black Sea Cruise (23-25 July 2013) a synchronic observation in the Zmiinyi Island area was conducted. Exchange of data and technical reports was agreed in advance and accomplished for the mutual benefit of MISIS and EMBLAS.

In terms of cooperation with EPIRB, there have been no specific joint activities in this phase, however there was some information exchange and mutual participation on some of the project events. EPIRB project was represented also at the National Stakeholder Workshop in Ukraine and Georgia.

Key events organized within the project

A number of meetings was organized to coordinate the project plans and activities, as well as to discuss work on the individual components.

- Inception workshop and 1st Steering Committee Meeting (10-11 June 2013, Odessa, Ukraine) was aimed to summarize the activities which have been undertaken in the frame of the inception phase and collect opinions of the participants in helping to steer directions the project should go in its implementation. Each activity of the project was reviewed and recommendations for further steps were incorporated into Inception report
- EMBLAS experts Coordination Meeting (23-24 May 2014, Batumi, Georgia) was focused on the interim review of EMBLAS I Project achievements and gaps in implementation. The work plan of the project for 2014 was discussed and where necessary accordingly adjusted and responsibilities of partners were re-visited.
- Workshop on Guidelines for biological monitoring (15-16 July 2014, Istanbul, Turkey) facilitated revision/finalization of Guidelines for biological monitoring (for Zooplankton and Phytobenthos).
- Training "Chemical Methods of Marine Environment Objects Analyses" (16-18 Sept 2014, Batumi, Georgia) has been organized as a pilot capacity building activity, focused on the methods of marine environment chemical monitoring and quality assurance/quality control, adhering to ISO 17025 standard.
- Joint Workshop on GES/monitoring revision (01 October 2014, Istanbul, Turkey) was organized jointly with the Black Sea Commission Advisory Group on the Pollution Monitoring and Assessment (PMA) and discussed various issues, including elaboration of Regional Water Quality (WQ)/GES Classification Methodology.
- Joint Workshop BSC/EMBLAS on harmonization Black Sea standard chemistry/pollution research (03 October'2014, Istanbul, Turkey) discussed the harmonization of selected parameters sampling and processing and intercallibration, in the relation of the planned fieldwork in the EMBLAS-II.

- 2nd Steering Committee Meeting and Consultation meeting (4-6 November'2014, Istanbul, Turkey) was organized with purpose to review the achievements of the 1st phase of the EMBLAS project, as well as to introduce the planned activities of the 2nd phase. The Steering Committee has been informed about the key issues related to the project implementation (management, progress monitoring, budget approval, etc.). The Steering Committee approved a proposal for a 3 months no cost extension of the project until 31 March 2015, approved the work plan for the period January – March 2015. The SC meeting has been followed by EMBLAS experts' coordination meeting, where the finalization of outstanding activities has been discussed.
- National Stakeholders Workshops in the beneficiary countries – Georgia: 2 March'2015, Tbilisi, Russian Federation: 12-13 March 2015, Sochi, Ukraine: 23-24 March 15, Kiev, were aimed to discuss with stakeholders the Revised National Monitoring Programs, present other major EMBLAS I results (in particular the Diagnostic Report-II), increase the project visibility, support development of the project ownership, as well as to introduce an outline of the planned activities in EMBLAS-II.
- Joint meeting of BSC Advisory Groups (31 March – 3 April 2015, Istanbul, Turkey) was partially supported by the project. Selected project deliverables were presented to the BSC Advisory Groups (Biological guidelines, Black Sea Information System prototype, Joint Cruise Methodology, etc.) and planned activities in the phase II were introduced.

List of the events organized during the project implementation is given in the Annex 1 as well as the notes from the meetings.

Project evaluation

The UNDP Terminal Evaluation prepared by an independent evaluator in March – May 2015 was undertaken in line with UNDP requirements and as agreed by the SC meeting (Nov 2014). The aim of the evaluation was to review the results of the project and give recommendation for the implementation of the next phase.

Key points:

- The evaluator reviewed the results of the EMBLAS-I as well as gave recommendations for the implementation of the EMBLAS-II – lessons to be taken in to the 2nd phase.
- The evaluator used 6 point scale, the project results were evaluated as satisfactory and marginally satisfactory (3 and 4) and in general the project achieved most of the planned results. However, there are still gaps to be filled in during the 2nd phase;
- The extension of the project was endorsed, as well as planning of close cooperation with the BSC Secretariat and focusing the activities on knowledge management that will be achieved through planned trainings, work on the databases, BSIS, etc.;
- New composition of the project team for 2nd phase was positively evaluated, stronger technical expertise of the project team will be beneficial for the project 2nd phase;
- In general, the project (EMBLAS-I) achieved most of the planned results, as this is a preparatory project for a larger technical support. It has successfully providing a good basis for phase two implementation.
- The management has been found to have taken all the necessary actions to realign the project activities in line with the results expected and the technical support needs and project strategy.
- Adaptive management is firmly established as implementation modality - a key positive finding.
- The recommendations are to support the second phase management and implementation, based on the learning from phase one.

- EMBLAS I Evaluation endorsed:
 - The time extension to March 2015 for EMBLAS I.
 - Future actions to provide some support to help strengthen the capacities of BSC and its Secretariat, with focus on communication, and knowledge management including databases.
 - Initiation of a training programme for the national institutions as a part of the overall capacity building plan.
 - Development of a written capacity strengthening plans.
 - Arrangement to strengthen the project with experts and key technical assistance.

Recommendations for the phase 2:

- Project Management Team (PMT) to ensure further development and quality assurance of the draft documents prepared by the phase I, particular attention is needed for the work on WQ/ GES Methodology, as well as on compliance indicators work.
 - In general, further development of the documents prepared within EMBLAS-I is foreseen. The particular attention will be given to the documents with a regional importance. The involvement of the BSC Secretariat and Advisory Groups is foreseen in vetting the final documents.
 - The DRII is taken into consideration in the preparation of Revised Monitoring Programs, planning of CB activities and surveys
- PMT to further develop the three level capacity building approach (regional, national and local).
 - Building the capacities of the BSC Secretariat fits in the context of building capacities at the regional level - databases / BSIS and BSIMAP and support to the project beneficiary countries with input for documents to be compiled by the BSC Secretariat for all Black Sea Countries (BS SOE report, SAPIR, etc.)
 - Capacity building and trainings at national level are planned in the EMBLAS-II, in the frame of project activities 2-4
 - Involvement of the NGOS and CSO will be planned in the frame of the PA6 (sentinels).
- PMT to develop an explicit project communication and linkages function i.e. knowledge management and communications.
 - The project dissemination and communication strategy and a training program will specify the capacity building needs and approach, as well as the communication and KM strategy (reflected also in PA6)
- PMT to include a plan for close monitoring of risk scenarios and plans to mitigate be updated and included in EMBLAS 2 implementation strategy
 - It will be reflected in the frame of the PA 7 – project management. Risk assessment is part of the UNDP internal procedures. If needed the Steering Committee will be involved in related decisions to be taken

UNDP prepared a management response to the key recommendations/conclusions, the full Terminal Evaluation and the UNDP Management Response is provided in Annex 14.

Project visibility

The visibility and communication plan has been prepared to provide guidance for fostering visibility and raising the public profile of the project and to systematize dissemination of information about the project, its priorities, achievements and principles.

Under PA8: 'Visibility and dissemination' the key elements related to the project visibility were prepared, including the Project Dissemination Plan, project web-site: www.emblasproject.org, logo

and abbreviation, project leaflet and newsletter, prepared with active involvement of all Partner Organizations and experts.

The project has been promoted through a TV interview, press-release, and presentations during different international meetings. 20 minutes TV interview on the Black Sea environmental status, monitoring and EMBLAS project was broadcasted through the Ukrainian TRK channel. Project presentations were made at two international meetings (in Greece and in Georgia), as well as at other events where the project partners participated.

An initial step in wider awareness raising about the project was the preparation of a List of National stakeholders. As a follow-up, specialised questionnaires needed for the preparation of the Diagnostic Report II were distributed to the relevant stakeholders involved in the Black Sea monitoring. The National Stakeholders Workshops organized by the end of the EMBLAS-I were the main events related to awareness raising. For the EMBLAS-I project there was not much space for the NGO/CSO/private sector involvement, because most of the work done in this phase required scientific input and expertise. However, in the 2nd phase more active involvement of the stakeholder audience is planned.

4. Activities and results

4.1 Project Activity 1: Review of the national monitoring systems and of the methodological tools for assessing marine environmental data

The overall aim of this PA was to analyse national and regional monitoring systems (legal and institutional framework of the different types, their design and implementation) and data management/assessment tools availability (including models and data bases existing at the national, regional and other levels). The gaps in monitoring systems design and problems in implementation of programs were identified. Recommendations for the revision of national and regional monitoring programs and improvement/development of tools for data management/assessment at the national and regional level were produced, taking into consideration the requirements of the ecosystem-based management of environment protection. Relevant authorities should be aware about the gaps and problems in implementation of monitoring programs and on the recommendations for their revision. The partner organizations leading this project activity were Odessa National University (ONU) and Marine Hydrophysical Institute (MHI).

The planned and achieved results are:

- 1.1: Review of status of monitoring systems and data management/assessment (DMA) tools, gap analysis for each country
- 1.2: Recommendations for the further development of monitoring systems and DMA tools for each country (as part of the Diagnostic Report)

The following sub-activities were carried out:

Activity 1.1: Preparation of special Questionnaire (Part I for monitoring (incl. operational), data management tools, QA/QC and Part II – data availability, assessments).

The questionnaire was prepared in two parts. Part I was aimed to identify organization's observational and informational capacity in the area of Black Sea-related monitoring (drivers, pressures, state, impacts, vulnerability/sensitivity, response, and recovery), data/information collection and their management, and consequent assessments. Part II was dealing with Black Sea data availability, infrastructure/vessels/equipment needs and priorities in harmonization. The target group for the Questionnaire Part I+II were the stakeholders performing the monitoring in the field. A simplified Questionnaire was prepared for national organizations that are only collecting statistical information (e.g. local authorities). This simplified Questionnaire was also adjusted for international organizations that are collecting and Black Sea related data. (Questionnaires are provided as Annex to the 1st Interim Report)

Activity 1.2: Compilation of List of Stakeholders, communication with them and collation of information (through the Questionnaire), review of available documents.

A List of relevant national stakeholders for each country was prepared by the National Focal Points with support of the project Partner Organizations. The national stakeholders include list of organizations which are involved in the monitoring.

Activity 1.3: Preparation of Diagnostic Report II - Gap analysis and preparation of a report on the findings and recommendations for revision of national and regional monitoring systems and for further development of tools of management and assessment of data/information.

The response to the Questionnaires was evaluated by the end of 2013. It was rather low and the information collected was only partly sufficient for the Diagnostic Report compilation. Therefore, additional sources of information were searched and used. The National Focal Points provided reports on the national statistics as related to the Black Sea monitoring. The Black Sea Commission Permanent Secretariat made available the national reports of Georgia, Russian Federation and Ukraine under the Bucharest Convention for the period 2010 – 2012

prepared by the Black Sea Advisory Groups. Additional input was received from the national legal experts hired by the project, who prepared an overview the Georgian, Russian Federation and Ukrainian legislation/policy on Black Sea monitoring and prepared gap analysis. Another source of information were reports from relevant projects: SeasEra, Arena, BSERP, MyOcean, PEGASSO, MONINFO, MISIS, B2B, and EPIRB.

The template/outline for the Diagnostic Reports was drafted by the Project management Team and further developed in consultation with the Odessa National University (ONU) and Marine Hydrophysical Institute (MHI). The Diagnostic Report has been prepared with the participation of all partner organizations.

The Diagnostic Report II includes 8 Chapters and 9 Annexes:

- I. Black Sea Monitoring (state/mandatory, non-mandatory, and operational)
- II. Data management, data products, data flagging (DQC), assessments
- III. Progress in water quality/GES classifications
- IV. Laboratory Infrastructure, Equipment, Vessels, terms of sharing
- V. Training
- VI. Data/information availability to comply with environmental protection policy/legislation
- VII. Harmonization process (needs)...
- VIII. Conclusions and Recommendations (overall)

Each chapter has also conclusions and recommendations on improvements.

Activity 1.4: Dissemination of the Diagnostic Report, work toward alignment of national funding with the needs identified in monitoring and data management.

Diagnostic Report was disseminated through various channels. The document was widely disseminated among the experts of partner organizations during its preparation as a draft version and commented. Information on Diagnostic Report II was also presented at the Black Sea Day (3 Nov 2014, Istanbul, Turkey) and EMBLAS Partner Organizations/Experts coordination meetings (5 Nov 2014, Istanbul, Turkey). The final version has been posted at EMBLAS website – public area and information about it was published at the project newsletter.

The Diagnostic Report II has been also presented during the three National Stakeholder Workshops organized in March 2015, in Georgia (Tbilisi), Russia (Sochi) and Ukraine (Kiev). At these workshops, devoted to the national monitoring programs a number of important stakeholders were present, which are involved in water quality monitoring. The Chapter VIII: “Conclusions and Recommendations” of the Diagnostic Report II has been translated into national languages and disseminated to the participants.

4.2 Project Activity 2: Support to the implementation of countries obligations under the Bucharest and other related Conventions and Agreements

The aim of this PA was to help improving the indicator-based reporting of the BSC, develop awareness on harmonization needs and facilitate the harmonization process at the regional level toward common understanding of water quality and good environmental status (GES). This project activity has been led by the Black Sea Commission Permanent Secretariat (BSC PS).

The planned and achieved results are:

- 2.1: Indicator based reporting scheme further developed
- 2.2: Support provided to the countries in harmonization of national policies with focus on common understanding of water quality/good environmental status

The following sub-activities were carried out:

Activity 2.1: Facilitating the development of an indicator-based reporting on compliance within the Black Sea countries' obligations under the Bucharest Conventions.

The BSC PS was the leading partner for the preparation of the List of Compliance indicators and related report. Other partners were involved through providing comments. The preparation of the **Report on Compliance Indicators** and reporting has been found as a very complex process. The indicators should take into account the Black Sea Strategic Action Plan, the Black Sea Integrated Monitoring and Assessment Program, and at the same time it should be in line with the EU MSFD. The experience of European working groups under MSFD, findings and recommendations of ICES, OEDC, results of PEGASO project were recommended to be used for proposal of core set of environmental compliance indicators under the Bucharest Convention. The draft Report is a compilation which still need additional work in the 2nd phase of the project, in close cooperation with the BSC Advisory Groups. The compliance indicators were discussed at the EMBLAS Consultation meeting in November 2015 and also during the meeting of EMBLAS and Advisory Groups Meeting on 31 March-2 April 2015.

Activity 2.2: Support to the harmonization of national policies, including common understanding of Water Quality/Good Environmental Status.

The lead partner for this sub-activity was the BSC PS, other partner organizations were involved in consultations. The main result was the document "**Towards Good Environmental Status of the Black Sea**". Originally it has been foreseen that the Regional WQ/GES Methodology will be presented at the BSC meeting for adoption. However adoption of any documents by BSC requires prior consultations with the BSC Advisory Groups. The draft document prepared in the EMBLAS-I can be considered as an initial step towards development of the methodological approach for identification of the good environmental status of the Black Sea in line of the MSFD. The report compiles the available experience in developing good environmental status descriptors, criteria, indicators and targets of the state of the marine environment in Europe. It will require additional expert input and further testing of the methodology is planned for EMBLAS-II.

Analysis of existing information has shown gaps in knowledge on Black Sea ecosystem in Georgian, Russian and Ukrainian parts of the Sea. Significant effort will be needed to develop GES classification with a full set of methodologies for calculation indicators and targets applicable at the national and regional levels. The Water Quality/GES Classification Methodology was discussed not only within EMBLAS team of experts, but also at BSC Advisory Groups meetings and Joint Workshop on GES/ Monitoring revision conducted in cooperation with the BSC PS in October – November 2014.

In addition, the project provided support to Georgia in preparatory steps for the implementation of the EU directives. Analysis of Georgian legislation/policy as related to the EU-Georgia Association Agreement and specifically in support of the MSFD transposition has been prepared (Annex 4).

4.3 Project Activity 3: Development of cost-effective and harmonised biological and chemical monitoring programmes in accordance with reporting obligations under multilateral environmental agreements, the WFD and the MSFD

The overall aim of this PA was to support the revision of the national (in GE, RU and UA) and regional monitoring programmes. More specifically, the activity envisages: i) Updating (or establishing, where appropriate) the list of characteristics (physical, chemical, biological, other), pressures, impacts and parameters to be measured; ii) Formulating proposals for extending the current biological monitoring system (both parameters and frequency) and relevant capacity building by means of trainings; iii) Developing or improving Regional Guidelines on Biological Monitoring; iv) Reviewing the current monitoring network and putting forward proposals for new monitoring locations and/or possible relocation of existing stations; and v) Developing operational monitoring programmes, including cost-effectiveness assessment and proposals on economic instruments and funding mechanisms. The discussions on the monitoring programmes revision were carried out with the participation of the relevant BSC Advisory Groups. The partner organizations leading this project activity were State Oceanographic Institute (SOI), Institute of Biology of Southern Seas (IBSS), P.P. Shirshov Institute of Oceanology (SIO-RAS).

The planned and achieved results are:

- 3.1: Recommendations for revision & extension of national monitoring programs, including new parameters, network of reference sites, etc.
- 3.2: Guidelines for biological monitoring developed.

The following sub-activities were carried out:

Activity 3.1: Revision of National and Regional Monitoring Programs (based on the reporting needs, promotion of operational monitoring, cost-effectiveness, etc.) and Activity 3.3: Promotion of operational monitoring

This activity has been supported with the information collected during the preparation of the Diagnostic Report II, and conclusions of the DR-II chapter "Gaps and problems in national and international monitoring implementation, recommendations for improvements". In order to have consistent and comparable documents on the revised national monitoring programs, a special template was developed, in line with the MSFD and Bucharest Convention (BSIMAP, BSAP) demands for marine monitoring development. Approaches to monitoring revision and standardization of reporting also were discussed among experts during several events: EMBLAS Coordination Meeting of Partner Organizations /Experts, May 2014, 24th PMA Advisory Group meeting, and EMBLAS Consultation meeting in November 2014. Based on the agreed template and broad discussions the national teams of Georgia, Russia and Ukraine have prepared draft proposal for revised national monitoring programs. (Annex 5).

In March 2015 the national reports were discussed at three National Stakeholder Workshops organized in Tbilisi (Georgia), Sochi (Russia) and Kiev (Ukraine). The stakeholders participating in the workshops included the representatives from state decision making bodies (National Parliaments, Ministries of Environment), high level state management bodies (e.g. State Water Management Agencies, regional administrations), state organizations responsible for conducting environmental monitoring (e.g. State Meteorological Service), representatives of some ports' administration, different scientific institutions and universities conducted chemical and/or biological monitoring, and NGOs.

The national proposals for Revised Monitoring Programs are solid draft version, which will be further elaborated in more details in the 2nd phase of the project and utilized during the monitoring surveys. It needs to be noted that the Monitoring Programmes can be considered as final, after endorsement at the Black Sea Commission level, followed by the approval at the national government level. This would be a great achievement of the EMBLAS project,

however it may not happen in the lifetime of the project (EMBLAS-I + II), since there are many factors that can influence the approval process, including political situation in the countries.

Activity 3.2: Further development of biological monitoring guidelines and Activity 3.4: Promotion of the biological monitoring guidelines

Preparation of biological guidelines involved a large group of experts from different EMBLAS Partner Organizations as well as from other scientific institutions outside of the project. Special workshop on Guidelines for Biological Monitoring (Zooplankton and Phytobenthos) was conducted in July 2014 in Istanbul (Turkey). The aim of the meeting was to discuss final steps for preparation of monitoring manuals and standardization of their content. It was decided that beside the detailed methodology for relevant samples collecting and processing, all manuals should contain lists of species and their occurrence within the territorial waters of each of the Black Sea countries, as well as major determinants for species identification. Also it was agreed that an important part of guidelines should include a list of qualitative and quantitative indicators of the Black Sea ecosystem ecological state, which could be recommended for improving of monitoring and assessment methods. The Guidelines were also presented at the meetings of Biodiversity Advisory Group of the Black Sea Commission. The guidelines were prepared for Macrophytes, Macroplankton, Mesozooplankton and Microzooplankton. The documents were discussed at the Black Sea CBD Advisory Group meeting in October 2014 and April 2015. They were submitted for the endorsement by the group and if accepted, they will be presented to the Black Sea Commission for approval.

4.4 Project Activity 4: An assessment of needs regarding laboratory infrastructure, equipment, and training

The overall aim of this PA was to obtain an updated knowledge on the laboratories infrastructure, equipment availability in the region, on further needs in terms of equipment and training and proposals for more efficient use of equipment/sharing and capacity building needed to improve the performance in monitoring. The partner organizations leading this project activity were P.P.Shirshov Institute of Oceanology (SIO-RAS), Institute of Biology of Southern Seas (IBSS) and Iv.Javakhishvili Tbilisi State University (TSU).

The planned and achieved results are:

4.1: Analysis report on available infrastructure/vessels/equipment and needs and training necessities

4.2: Recommendations to improve the efficient use of equipment and database on equipment availability

The following sub-activities were carried out:

Activity 4.1: Preparation of Questionnaire, dissemination to relevant stakeholders, collation of information (as a part of questionnaire for PA1).

Questionnaire Part II, which deals with Black Sea data availability, infrastructure/vessels/equipment needs and priorities in harmonization, and capacity building (training) was prepared in accordance to the Work plan and disseminated by the National Focal Points to relevant stakeholders. Because of the low level of stakeholders' activity (see also A 1.3), additional efforts for obtaining information from them were undertaken by management team. Relevant reports from other projects also were examined (SeasEra, ARENA, B2B, MONINFO).

Activity 4.2: Assessment of the availability and needs, elaboration of recommendations for sharing of infrastructure /equipment /vessels and trainings (Chapters of the Diagnostic Report).

The results of Assessment of the availability and needs, elaboration of recommendations for sharing of infrastructure /equipment /vessels and trainings were included in Diagnostic Report II as Chapter IV Laboratory Infrastructure, Equipment, Vessels (IEV), terms of sharing. The chapter includes detail information, organization by organization, for each of three countries – Georgia, Russia and Ukraine in terms of general information and major units of Infrastructure; - major field equipment and the terms of sharing with other organizations in the country and outside; - availability of vessels and characteristics of the vessel/s, and terms of rent; - underwater vehicles. Final part of the chapter includes summaries on infrastructure, number of equipment and vessels and its sharing, as well as recommendations on improvement of infrastructure, equipment and vessels sets and their usage.

Assessment of the need also includes needs in training which is summarized in Chapter V of the Diagnostic Report II. It is based on the EMBLAS Questionnaire, where information on past trainings was provided by various stakeholders. Conclusions on the priority needs in training in the EMBLAS beneficiary countries were used for development EMBLAS training program (see PA5.2).

Activity 4.3: Promotion of the findings on options for sharing and trainings.

The results of the assessment were presented and discussed at EMBLAS Consultation meeting in November 2014, Istanbul, Turkey as well as at the National Stakeholder workshops (February-March 2015), as part of the Diagnostic Report-II.

4.5 Project Activity 5: Elaboration and implementation of a first training programme round on monitoring methods and quality assurance adhering to ISO 17025 standard

The overall aim of this PA was to produce a Training Program and ensure its initial implementation (with input from PA4 and further analysis conducted specifically for monitoring methods and QA/QC). The activity also addresses the needs to agree on standard operational procedures adhering to ISO 17025, QA/QC and DQC (data quality control). The partner organization leading this project activity was Ukrainian Scientific Center of Ecology of the Sea (UkrSCES), Odessa, Ukraine.

The planned and achieved results are:

5.1: Training programme & material prepared, SOPs and QA/QC manuals available

5.2: Trainings organized and capacities of Laboratories strengthened

The following sub-activities were carried out:

Activity 5.1: Analysis of the needs (specifically for monitoring methods and QA/QC), preparation of program.

The analysis of the training needs was prepared on the basis of the stakeholders' responses to the EMBLAS Questionnaire and additional information collected by the project experts (e.g. from relevant reports from other projects). Results of this work are summarized in Diagnostic Report II Chapter V Training.

Activity 5.2: Preparation of materials, revision/elaboration of guidelines, organization of trainings / harmonization workshops.

Based on the analytical work an initial **Training Program** has been prepared and created a basis for the capacity building activities – training. The first training workshop has been originally planned in Odessa in May 2014. However, due to the unforeseen political situation in

Odesa it has been postponed and organized in September 2014, in Batumi, hosted by NEA. The **Training on the methods of marine environment chemical monitoring and quality assurance/quality control**, adhering to ISO 17025 standard was attended by representatives from organizations involved in the Black Sea monitoring from Georgia, Russia and Ukraine: <http://emblasproject.org/gallery/training-chemical-methods-of-marine-environments-analyses>. The training materials – methodological information on chemical analysis and QA/QC was distributed electronically to the participants. Main part of training materials is also present on project web-site, including 11 presentations in English and Russian language. The training has been evaluated through a questionnaire distributed among the participants. The response to the training was positive on the quality and overall impression. Some recommendations were given for the future: to conduct trainings more frequently; extend practical part of the training to allow for each participant to conduct chemical analyses personally; more time should be allocated to chemical analyses that are absolutely new for participants; more attention should be paid to analysis of sediments contamination; to make training more interactive. The Training program and results of the training were also presented at EMBLAS Consultation meeting in November 2014.

Joint Workshop BSC/EMBLAS on harmonization in Black Sea standard chemistry/pollution research was organized jointly with the BSC Secretariat on 3rd Oct 2014 in Istanbul, Turkey (<http://emblasproject.org/gallery/joint-meetings-of-the-black-sea-commission-and-emblas-experts>). The workshop discussed mainly the work of the EMBLAS project and focused on recommend SoPs in the Black Sea Region on sampling techniques. Recommendations on further work in harmonization also were discussed. Experts of EMBLAS project analyzed already existing SoPs. Selected SoPs for 47 monitoring parameters, and 46 different documents on standardization of different sampling types were collected and they are available for the partner organizations at the project intranet. Harmonization of biological sampling/monitoring were discussed in frame of development on Biological Guidelines (and related check-lists) for monitoring of zooplankton and phytobenthos were discussed at 19th CBD AG meeting in September 2014, conducted in Istanbul, Turkey.

4.6 Project Activity 6: Prepare the methodology for Joint Black Sea Surveys

The overall aim of this PA was to initiate the preparation of the Joint Black Sea Surveys, which will be implemented in the EMBLAS-II and promote the idea on the need of such activity. Inter-project and cross-country cooperation in joint monitoring activities should be developed. Methodology for future joint surveys should be prepared, addressing also the risks of data incompatibility and proposing solutions for potential problems. The partner organizations leading this project activity was P.P. Shirshov Institute of Oceanology (SIO-RAS).

The planned and achieved results are:

- 6.1: Methodology for Black Sea survey developed (including the list of parameters, sites);
- 6.2: Technical support to joint surveys planned under other EU projects provided

The following sub-activities were carried out:

Activity 6.1: Survey methodology (based on the results of revision of monitoring programs)

Joint survey methodology prepared in EMBLAS-I provides a framework for the organization of the Joint Open Sea Survey in the 2nd phase. The objectives of the Joint Survey Methodology are; i) To develop a long-term joint monitoring strategy based on the identified scientific needs, as well as existing capacities and suggest it as an integral part of BSIMAP; ii) To identify areas of possible joint research, time and frequency of observations and parameters to be measured; iii) To estimate and provide recommendations to ensure cost-efficiency of the Survey; iv) To suggest a scheme of data exchange among the partners based on uniform

methodologies for data storage in joint data bases and their assessment; v) To identify the ways to harmonize the methods of sampling, data processing and data exchange, which can be introduced later in the national monitoring programs; and vi) To enhance regional cooperation and advance harmonization in BS monitoring and assessments.

The document was prepared by SIO-RAS in close involvement of the experts from other Partner Organization and with support of the experts from the EMBLAS-II. JCM includes the following parts: 1. Introduction; 2. Goal; 3. Objectives; 4. Main Scientific Priorities; 5. State-of-the-Art and Links to other projects; 6. Scientific Background and methodology (Station locations, Time period, Sampling design, Measured parameters, Cruise management, Sample processing, data storage and availability); 7. Risks and Contingency. JCM was also presented and discussed at the following meetings: at EMBLAS Coordination Meeting of Partner Organizations /Experts in May 2014, during Joint Workshop on GES/monitoring revision in October 2014, at EMBLAS Consultation meeting in November 2014. The final draft version has been presented at the BSC Advisory Groups meeting in April 2014, where also possible cooperation and coordination of surveys with other Black Sea countries (Turkey, Bulgaria, and Romania) has been discussed and preliminary agreed.

Activity 6.2: Technical support to survey's (field work) organization planned under the projects MISIS, PERSEUS and/or COCONET

Technical support to surveys organization under MISIS and COCONET was provided. The MISIS Joint Cruise Programme was elaborated in consultation with EMBLAS. The MISIS surveys in the proposed first transboundary protected area in the BS – Strandzha-Igneada (btw Bulgaria and Turkey) were designed with the help of EMBLAS as well. In Coconet, EMBLAS helped in planning field work (in GE, RU and UA) and a joint cruise in the Zernov Field. However, the latter did not take place, as the Ukrainian authorities did not allow the planned Romanian vessel (Mare Nigrum) for this cruise to enter Ukrainian waters of the Black Sea.

4.7 Project Activity 7: Development of the web-based Black Sea Water Quality Database prototype

The overall aim of this PA was to support the further development of Black Sea regional databases (components of BSIS) – Water Quality, *Mnemiopsis* and Phytoplankton, including user guidelines and enhancing of the compatibility/interoperability of the Black Sea databases with WISE-MARINE and SEIS. The partner organizations leading this project activity were Ukrainian Scientific Center of Ecology of the Sea (UkrSCES), Institute of Biology of Southern Seas (IBSS), Marine Hydrophysical Institute (MHI), Black Sea Commission Permanent Secretariat (BSC PS).

The planned and achieved results are:

- 7.1: Concept for Web-Based Database agreed, programming and web portal tested;
- 7.2: Guidelines for the database use and data upload, concept for the long-term maintenance

The following sub-activities were carried out:

Activity 7.1: Further development of BSIS components and functionalities as web services

The current information system used by the Black Sea Commission - Black Sea Information System (BSIS) contains several components, developed in the frame of previous projects: The Main web page of the Black Sea Commission; Data Access Service Provider Application (Black Sea Scene Project); Reporting Data of the Advisory Groups 2000-2004, Historical Data; Reporting Data of the Advisory Groups 2004-2010; Document Repository; MONINFO System and BSCPS Intranet (financial and project management system).

In order to improve the BSIS and transform it into a solid web-service with further developed components an overview of the current status of BSIS has been carried out, reviewing in detail the software and hardware currently in use for operation of the BSIS, analysed the bottlenecks, software, hardware and other incompatibilities. The conclusions were that system is fragmented, scattered in terms of both software and hardware. The system has components which are difficult to integrate because of variety of databases, variety of server technologies, scripting technologies. As a Road Map for further BSIS development were proposed the following steps: i) assess redesign of components vs integration; ii) assess cloud hosting vs dedicated server; iii) assess moving to a single development platform (IT expertise required for one platform vs all platforms); and iv) propose integration plan to Black Sea Commission. Detail results of the BSIS assessment are presented in **Technical Assessment of the Black Sea Information System** (Annex 10). Based on above mentioned Assessment, a **Concept for further Development and Implementation of the Black Sea Information System** was prepared (Annex 10). The Concept includes detail description of different BSIS aspects – user need analysis, technical aspects of prototype development (server selection, web development etc.), comparison of the Black Sea Information System Prototype with the fully operational BSIS, available resources, and further development of the roadmap proposed in the Technical Analysis of the BSIS, information flows. The concept was discussed with EMBLAS experts and it has been also presented at Joint Workshop on GES/monitoring revision in October 2014, EMBLAS Consultation meeting in November 2014 and Black Sea Advisory Groups meetings in March 2015. A prototype of BSIS was developed and which was opened EMBLAS experts and BSC Advisory Group members for evaluation and comments (accessible at <http://www.bsis2014.org>).

Water Quality DB prototype, as a part of BSIS, is developed by UkrSCES with involvement of many experts from project Partner organizations. At the first step a **Concept Paper for WQ database and Information exchange** (Annex 9) has been developed. The document covers the following aspects of DB development – purpose of the Concept, general requirements to WQ DB (software, hardware, functionality, data and metadata etc.), interface, conceptual data structure, interaction between the central Black Sea Water Quality Database and other Black Sea regional data management infrastructures (e.g. created under Emodnet, SeaDataNet), as well as the interoperability with the WISE-Marine (EEA) and SEIS.

Based on agreed concept first version of the WQ DB prototype was developed and put on web-server of UkrSCES (<http://www.sea.gov.ua/emblas/database.php>). In order to test the prototype a virtual training has been conducted by UkrSCES for all EMBLAS Partner organizations. Based on testing results advanced version of the WQ DB prototype was developed. **Manual for WQ Database Operation and Data Upload** (Annex 9) has been prepared for potential users of the databases.

Information on WQ DB prototype was disseminated through EMBLAS newsletter (<http://emblasproject.org/publications-reports>) and presented/discussed at different EMBLAS meetings: EMBLAS Coordination Meeting of Partner Organizations /Experts, May 2014, EMBLAS Consultation meeting in November 2014.

The work on the two other components of BSIS - Mnemiopsis and Phytoplankton Databases has been initiated, however it did not advanced as planned. Therefore the work on these two components is shifted to EMBLAS-II.

Activity 7.2: Investigating the possibilities for interaction between the central Black Sea Water Quality (WQ) Database and other Black Sea regional data management infrastructures (e.g. created under EmodNET, SeaDataNet, MONINFO), as well as the interoperability with the WISE-Marine (EEA) and SEIS

This activity has been conducted by UkrSCES within the development of WQ BD concept and its prototype, a short summary is part of the Concept Paper for WQ database and Information exchange.

4.8 Project Activity 8: Dissemination of Knowledge and Best Practices, Public Awareness and Visibility

The overall aim of this PA was to develop and support the project ownership, visibility, widely disseminate results achieved/deliverables produced and to make a basis for building public awareness and increase public education. It should ensure the Project is not forgotten after it ends but will bring to generation of further activities.

The partner organizations leading this project activity were: UNDP; Odessa University, Tbilisi University, State Oceanographic Institute

The following sub-activities were carried out:

Activity 8.1: Promotion of the project, visibility of EC support, ownership development

Project Dissemination Plan – has been prepared as an outline of strategy for the EMBLAS project on dissemination of project results, communication and coordination with partners and stakeholders, as well as for the increase of public awareness on the Black Sea monitoring and environmental problems.

Project Webpage - The first EMBLAS project web-page has been created on the UNDP Ukraine web-site. This web-page contains brief information on the project as well as the EMBLAS Inception Report. The Link for the web-page on the UNDP web-site is: [http://www.ua.undp.org/content/ukraine/en/home/operations/projects/environment_and_ene](http://www.ua.undp.org/content/ukraine/en/home/operations/projects/environment_and_energy/project_sample121.html)

In addition, an independent web-site of the EMBLAS project has been created, which provides with much more possibilities not only to present and disseminate project information (news, reports etc.), but it includes also Intranet to facilitate information exchange among the Project Partners and preparation of project reports/publications. The EMBLAS web-site is at: <http://emblasproject.org/>

TV interview - 20 minutes TV interview with the EMBLAS Project Manager Dr. V.Kostiushyn on the Black Sea environmental status, monitoring and EMBLAS project was broadcasted through the Ukrainian TRK channel (28.08.2013): <http://www.youtube.com/watch?v=tDsTaopbZjk>. This first TV interview was organised with the support of the PR department of UNDP Ukraine. At least one more TV interview can be planned with their support to speak about the proposed revision of monitoring programmes and the importance of this in Black Sea environmental protection.

Project Abbreviation and Logo - The Project abbreviation - EMBLAS – was developed based on extensive communication with all project participants. The project logo has been developed by a designer company Brandon (Odessa), which prepared several versions of logo. The final logo has been selected in consultations with all project partners.

Project leaflet, which includes basic EMBLAS project information – project rationale, main aim of it, sub-targets and activities, was prepared in English. It was printed in 200 copies, to be widely distributed to the partner organizations, partner projects and other stakeholder. It is also available at the project website.

Project newsletter was developed and it will be finalized in the first quarter of 2014. It includes an overview of the project activities implementation and information on the results obtained. The newsletter has been distributed mostly in electronic form, via email and it is also available on the project website. The second newsletter is planned by the end of the 1st phase of the project. The frequency of the newsletters will be increased during the 2nd phase of the project. A limited number of copies will be printed as needed.

Press-release was prepared to introduce EMBLAS to the public, and provide information on its Inception Workshop (June 2013). The press-release was disseminated among Ukrainian mass-media with the support of Mr. Y. Zelenko, Communication Officer of UNDP Ukraine. Press releases were prepared also within the National Stakeholders Workshops which were organized by the end of the project, in March 2015.

Project presentations

Project presentations were made in the reporting period at two international meetings, as well as at other events where the project partners participated: i) Coordination of FP7 Projects in the Med and the Black Sea regions, June 13-14 2013, Athens, Greece; ii) EPIRB 2nd Regional Steering Committee Meeting, 18-19 September 2013, Tbilisi, Georgia .

Activity 8.2: Raising awareness and Activity 8.3: Dissemination of Project results, visibility of Project efforts

Raising awareness and Dissemination of Project results were mostly attended in 2014 and 2015. The strategy is described in the Dissemination Plan. The project leaflet, newsletter are used to raise awareness about the project and on the importance of the Black Sea monitoring. The EMBLAS webpage is used to disseminate materials of the project and others among partners and interested stakeholders.

The project visibility was initiated through distribution of EMBLAS Questionnaires (used for the preparation of the Diagnostic Report – II), where major stakeholders were not only to provide information, but they were also informed about EMBLAS and its objectives.

4.9 Project Activity 9: Management and coordination of the Action

The aim of this PA was to ensure smooth implementation of the project, facilitate coordination and cooperation with the project beneficiaries, project partners and other stakeholders, as well as production of quality deliverables, and reporting in line with the donor requirements. It should also support preparation and planning of future activities.

This PA has been led by UNDP project team, in close cooperation with all partner organizations. The following sub-activities were carried out:

Activity 9.1: Organisation of Steering Committee + Partners Meetings

The Inception workshop of the EU-UNDP Project “Improving Environmental Monitoring in the Black Sea (EMBLAS) was conducted on 10 June 2013 in Odessa, Ukraine. Among meeting participants were representatives of EC/Europe Aid, UNDP BRC, UNDP Ukraine, UNDP Georgia, Black Sea Commissioners from Georgia, Russia and Ukraine, Permanent Secretariat of the Black Sea Commission, 9 Partner Organizations from Georgia, Russia and Ukraine, as well as from partners projects – MISIS and EPIRB.

Project objectives and expected results, project management arrangements, organizational structure, deliverables, timeframe and role of the project partners were discussed during the meeting. More detail information is presented in the EMBLAS Inception Report (Annex 13).

1st Steering Committee meeting of the project was conducted on 11 June 2013 in Odessa, Ukraine back to back to the Inception Workshop. The SC meeting agreed on the Steering Committee composition and mandate (ToR), monitoring of project progress and evaluation, project Work Plan and budget. More detail information on this meeting is presented in the EMBLAS Inception Report (Annex 13)

2nd Steering Committee meeting was held on 5th November 2014, in Istanbul, Turkey. At this meeting a number of important issues were discussed, in particular the project results up to

date and plan for finalization of the outstanding activities, budget. No-cost extension of the project has been agreed as well till 31st March 2015 (Annex 13).

Project Coordination meeting of Project Partners and Experts was organized in May 2014, in Batumi, Georgia with aim to discuss implementation of individual project activities, and agree on further steps (Annex 13).

Activity 9.2: Development and sustaining of the project web-site

As already mentioned above (PA8), the project website including intranet had been established. Further development and regular update is needed to make the site useful tool for information exchange and dissemination of information about the project activities.

Activity 9.3 Collaboration with on-going projects/activities /initiatives further encouraged.

Collaboration with other relevant on-going projects was discussed during the Inception Workshop, where the project managers of MISIS and EPIRB projects were present as observers. The EMBLAS project manager participated in meetings of projects to ensure coordination of joint activities.

Activity 9.4: Preparation of Progress, Interim and Final reports and Activity 9.5: Preparation of Financial reports

During the project implementation 1 Progress Report has been prepared and submitted to EC for approval, as a part of the annual reporting obligations as per the EMBLAS DoA and the UNDP project document. It contained also financial reporting and it has been submitted with a request for the next installment. The present report is the Final report of the project.

5. Emerging Challenges and Measures Taken

In general there was a slight delay in the implementation of the project activities. The recruitment process for the Project Manager and the Technical Advisor was concluded by the end of March 2013. Since the project activities could start only after the project team was fully on board, this 3 months delay had some impact on the project planning/implementation at the beginning. The project inception period was concluded after 6 months with the Inception Workshop, organized in June 2013 in Odessa, with participation of all Project Partners. With proper planning of further work and the plan presented in the Inception Report the initial delay was partly eliminated.

Already during the project development there was some political instability in the region, which has been documented in the Risk Log included in the Description of the Action. At the beginning of the project the situation was stable. However, this has been changed at the last quarter 2013. Political tension in Ukraine, related to signing of the political association and free trade agreement with the EU and consequent protests against the Ukrainian government, including violent clashes. This has resulted in a serious crisis in Ukraine in 2014. The political tension in the whole Black Sea region and particularly between Ukraine and Russia were increased with the Crimean referendum in March 2014, when the internationally recognized Ukrainian territory of Crimea was annexed by the Russian Federation in March 2014. From the time of the annexation on 18 March 2014, Russia has de facto administered the territory as two federal subjects—the Republic of Crimea and the city of Sevastopol—within the Crimean Federal District.

UN and EU do not recognize the Crimea referendum and annexation of Crimea as legal, therefore Crimea and the city of Sevastopol are considered by the UN as part of Ukraine. Therefore suspension of participation of Crimean institutions (MHI and IBSS) in project activities was considered. However since the project was expected to be finished by the end of 2014 (LoAs were expiring on 31st December 2014), the Project Steering Committee recommended to keep the two Crimean partner organizations in the project, in order to allow finalization of the project activities where MHI and IBSS were involved. Under EMBLAS II cooperation and contractual arrangements with the partner organizations based in Crimea were suspended in line with the EU position on this matter. This critical situation in Ukraine has impacted the project implementation. Some project events that were planned in Ukraine / Odessa had to be re-planned to other locations. UNDP prepared a short analysis of the risks for the project implementation, including several recommendations, how to deal with the situation (Annex 13).

During the EMBLAS-I the preparation of the follow-up 2nd phase has been initiated. The Description of the Action for EMBLAS-II has been prepared in close cooperation between the EMBLAS-I team and EC Program Manager. The next EU-UNDP Contribution Agreement has been signed at the end of 2013 and the implementation period of the EMBLAS-II started in 1st April 2014. Thus there was an overlap between the two phases of the project. Because of the difficult political situation the finalization of some project deliverables of EMBLAS-I has been supported also by the project team of EMBLAS-II. Upon request of the Steering Committee (meeting in November 2014), the revision of the DoA for EMBLAS-II has been initiated and the work on this document has been finalized during EMBLAS-I.

In 2014 Ukraine and Georgia the EU Association Agreement, that was positive motivation for these two countries to work on harmonization with EU legislation. It has been reflected in the planning of the 2nd phase of the project and in the revised DoA of EMBLAS-II.

One of the project deliverables is the Revised National Monitoring Programmes. It needs to be noted, that this document can be considered as final, only after endorsement by the Black Sea Commission and the approval at the national - governmental level. In general an approval of a policy document require some administrative processes which need to be followed. Therefore the commitment of the project to implement/get approved the revised national monitoring programs needs to be carefully evaluate.

6. Lessons learned and recommendations for the next phase

As mentioned earlier, the current project EMBLAS-I is the first phase of a larger joint EU-UNDP technical support provided to Georgia, Russia and Ukraine and it is followed by the 2nd phase – EMBLAS-II project.

It is important that experience and knowledge from the EMBLAS-I is transferred also to the 2nd phase in order to improve the efficiency in project implementation and to ensure that the overall objectives of the EMBLAS-I + II are achieved and results are sustained.

The UNDP Evaluation already outlined key lessons from the EMBLAS-I and recommendations for the 2nd phase. Some of them are taken into account, since the EMBLAS-II is already under implementation

The experiences from the EMBLAS-I:

- In general, up to 3 months are required to get the project operational, this should be reflected in the planning of the project deliverables
- The work on EMBLAS-I has been carried mostly by the national experts and partner organizations from the three beneficiary countries, with support of the Project Technical Advisor. The experience shows that a stronger support from international expert's community is needed in the 2nd phase. Expertise in EU directives implementation and practical experience with laboratory analytical work, up-to date methodologies and water quality monitoring is required. Transfer of experience from the EU member states and also other seas will be beneficial.
- The monitoring of the outcomes should be improved, and the agreed Log-Frame should be followed more closely. As confirmed during the Steering Committee meeting in July 2015, the adaptive management is one of the tools used in the project implementation and the Log-Frame can be adjusted if there is a need.
- A matrix of responsibilities should be established to facilitate easier monitoring of the project results, i.e. each of the key project activities should have one person from the Project Management Team assigned as a lead expert, to follow-up on work progress, achievements and indicators.
- Stakeholder involvement in the EMBLAS-I has been limited to the 10 partner organizations, involved in the Black Sea monitoring. This limitation has been reasonable, since the current project was a preparatory activity for a larger technical intervention during the 2nd phase. However the next phase of the project EMBLAS-II needs to expand the stakeholder engagement and a concrete plan needs to be prepared.
- Visibility of the project has been promoted through the project website, leaflet, and newsletter and during events with direct participation of the project or through the project partner organizations. Similarly to the stakeholder involvement, the visibility and awareness raising will be strengthened in the 2nd phase, due to several activities planned in the field.
- An Exit Strategy in general needs to be prepared for every project, to give recommendations on sustainability of project results. The Exit strategy has been prepared for the Phase 1, in order to give recommendations how to deal with the results of the current project in the phase 2 and also give strategic directions how to ensure the overall sustainability of EMBLAS-I+II.



Photo front page: Yuriy Denga, UkrSCES, Odessa, Ukraine

Photo back page: Alexander Vershinin, SIO-RAS, Moscow, Russia
