

Analysis of the boundaries to the assessment of impacts of measures on the marine environment of the Mediterranean and its coastal area

The assessments of the impacts of measures on the marine environment of the Mediterranean and its coastal areas have the following boundaries:

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- Boundary 1: The assessment will be based on selected Indicators established in order to detect any spatial and temporal changes in the status of the marine environment of the Mediterranean and its coastal areas.
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- Boundary 2: The task to be undertaken is concerned with the gathering and assessment of information on the status of the marine environment and its coastal areas through monitoring programmes.
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- Boundary 3: Implementation is a responsibility of Parties but this can be achieved through participating in a regional exercise.
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- Boundary 4: It is obligatory only to consider the elements to be monitored in relation with the objectives of the Protocols.
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- Boundary 5: The focus of the monitoring programmes is only to generate comparable data and information to be used to assess the indicators.
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- Boundary 6: Differences in capacity and capability between the Mediterranean Countries to generate data and information should be recognized.
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- Boundary 7: The assessment would make use of other sources of information e.g. EUROSTAT to develop comprehensive assessment.

Policy – Indicators – Information – Data – Monitoring interlinkage

In line with the global policy to assess effectiveness of measures, **indicators** approach is considered as the most appropriate, convenient and cost effective mechanism that enables national authorities to monitor their countries' achievements and disseminate the appropriate information and the regional and international organizations to prepare comprehensive assessments of impacts of measures.

To illustrate this interlinkage, an example is given hereafter.

POLICY
LEVEL

Dumping Protocol

ISSUE AT
STAKES-OBJECTIVES

Dumping of

- Dredged Material
- Fish waste
- Vessels
- Platforms
- Inert material

INFORMATION
GENERATED

Indicators of
Control
measures

DATA GENERATED

Permits and
Country
reports

MEDPOL and RACs have been working on indicators for years. Several sets of indicators to assess the effectiveness of the implementation of their strategy and policy have been developed and tested at national and regional levels. In the framework of this exercise there is needs to link these indicators to reach a comprehensive set of indicators, which could reflect the impacts of the measures on the marine environment of the Mediterranean and its coastal areas. Data and information to assess indicators are generated through monitoring programmes.

Organizational options in relation to the assessment needs

An important early step in the planning process is to recall the objective of the activity and to consider how the assessment may be conducted in order to achieve that objective. The appropriate selection of indicators, medias , operators , reporters and other details should be driven by a clear understanding of how the information will be used in the assessment and of the practical implications associated with various choices of delivery and organization.

The generation of data and information to assess indicators requires a decision on identifying the geographic scale over which we will seek comparable data. The nature of this decision has fundamental implications, since it not only defines the nature of the ultimate product but also suggests options for organization. Although a number of geographic scales for assessment and accompanying organizational structures are possible, only two options could be considered:

Option 1: National

Under this option, every party would be responsible for the generation of data and information to be used to assess indicators according to an established regional agreed upon uniform procedure. The data would be assessed nationally and there would be a hierarchy of assessment reports, national and regional.

Advantages:

- It is inclusive. All Parties would be involved.
- It is cost effective since it would make use of existing and ongoing activities to generate data and information to assess indicators

Disadvantages:

- Many countries will not have the capacity to support this approach;
- Even if capacity building resources can be made available, it is very doubtful that the level of work required would be sufficient
- The quality assurance and quality control implications necessary to ensure the comparability and harmonization would be an important issue
- Lack of data comparability will prevent meaningful comparison of national assessment reports and will not be capable of supporting an comprehensive assessment

Option 2: Regional

Under this option, all data would have regional comparability, thus allowing for the product to include a true regional assessment. MAP, MEDPOL and RACs would (after consultation with parties) ask selected national and regional institutions to collect data to assess the indicators according to an agreed procedure.

Advantages:

- This approach affords the greatest opportunity to achieve regional harmonization of methodology.
- The potentially high level of data comparability resulting from regional harmonization of methodology and high levels of QA/QC would be an asset for the region
- Utilization of existing regional programmes and mechanisms is possible; and,
- This approach could be cost effective, since it would primarily use the existing infrastructure already linked through established data comparability networks.

Disadvantages:

- This approach will be very demanding in terms of data comparability, since all data must have regional comparability;
- By using primarily the existing regional analytical infrastructure, this approach offers a very limited scope for capacity building;

- The centralized organizational nature of this approach creates a wide distance between Parties and the conduct of the work. This would not be inclusive and could have the potential for a serious lack of ownership between Parties and the assessments and subsequent effectiveness evaluation;
- Although this is the only approach examined here that offers a good potential for leading to a comprehensive regional assessment, Parties may have a greater interest in seeing national assessments.

Identifying minimum information needs

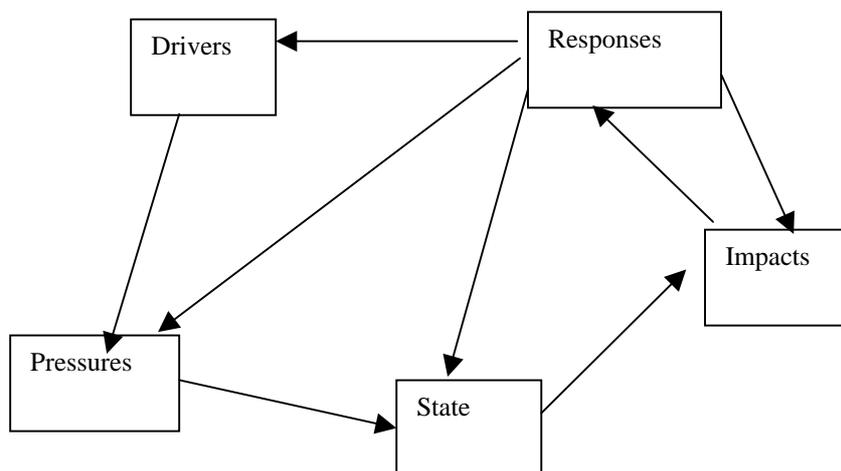
In general, simplicity leads to a considerable number of advantages including sustainability. The assessment of effectiveness could be evaluated using a very small and SMART number of indicators. Indicators related to specific Protocol should be assessed but not in all location. . A strategy should be developed to optimize effort with productivity and costs. Cost effectiveness should be the driver for the over all assessment since the experiences gained by MAP, MED POL and the RACs showed that data are expensive to generate and collect.

Assessment framework

The DPSIR framework

The Driver, Pressures, State, Impacts, and Response (DPSIR) framework is a policy-oriented concept, which generally reflects the analysis of the relations between the environmental and the human systems.

The **DPSIR** Framework for Reporting on Environmental Issues



According to this systems analysis approach, social and economic developments exert **Pressure** on the environment and, as a consequence, the **State** of the environment changes, such as the provision of adequate conditions for health, resources availability and biodiversity. Finally, this leads to **Impacts** on human health, ecosystems and materials that may elicit a societal **Response** that feeds back on the **Driving** forces, or on the state or impacts directly, through adaptation or curative action. Therefore, from the policy point of view, there is a need for clear and specific information on (i) the Driving forces and (ii) the resulting environmental Pressures, on (iii) the State of the Environment and (iv) the Impacts

resulting from changes in environmental quality and on (v) the societal Response to these changes in the environment.

The DPSIR framework is useful to describe the relationships between the origins and consequences of environmental problems, but in order to better understand their dynamics it is also useful to focus on the links between DPSIR elements. For instance, the relationship between the 'D' and the 'P' by economic activities is a function of the eco-efficiency of the technology and related systems in use, with less 'P' coming from more 'D' if eco-efficiency is improving. Similarly, the relationship between the Impacts on humans or eco-systems and the 'S' depends on the carrying capacities and thresholds for these systems. Whether society 'Responds' to impacts depends on how these impacts are perceived and evaluated; and the results of 'R' on the 'D' depends on the effectiveness of the Response.

In this context, an integration process should be initiated on the basis of the decision of the CPs for the adoption of a set of indicators, which could meet the objective of the system and to establishment of the MAP system to assess the impacts of measures on the marine environment of the Mediterranean and its coastal areas,. In this vision, data and information generated by the CPs to assess the agreed upon indicators would be generated by the CPs, the responsibilities incurred to MAP, MEDPOL and RACs would be to assess the implementation and effectiveness of the relevant protocol on the basis of the indicators.