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MEDITERRANEAN ACTION PLAN

Third EcAp Coordination Group Meeting

Athens (Greece), 9 September 2013

**The Economical and Social Analysis within the EcAp implementation,
on-going work and beyond**



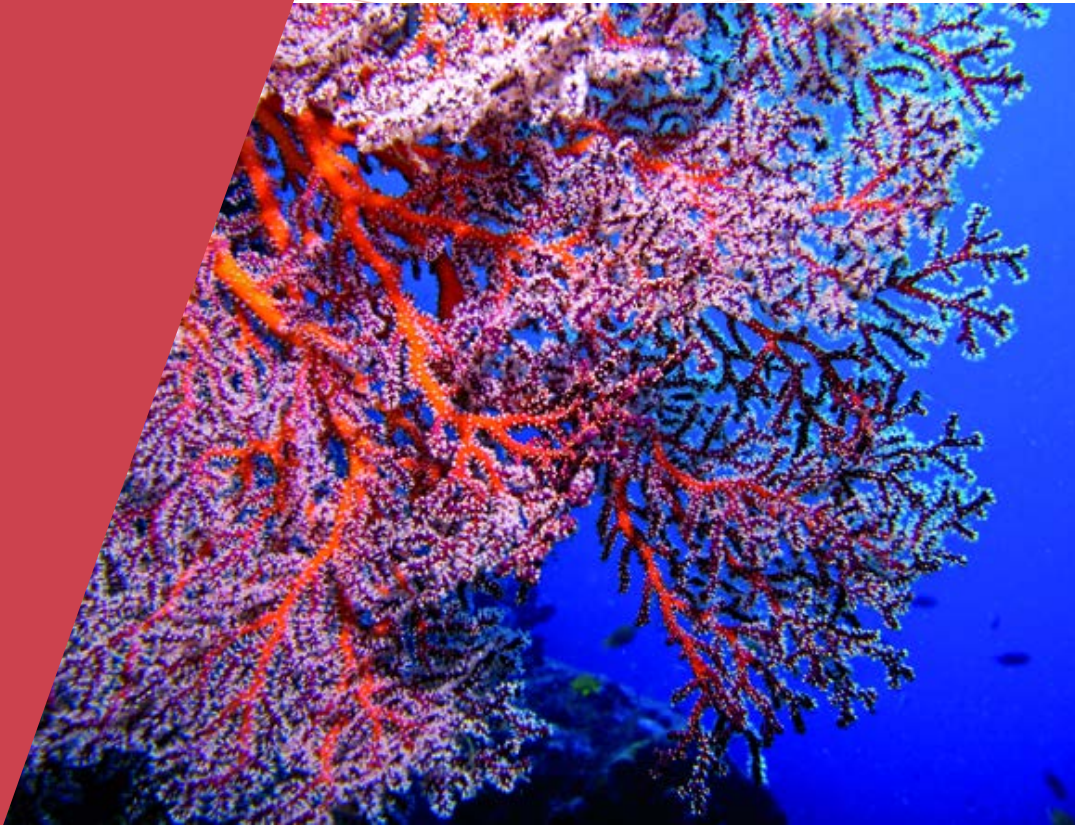
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The Economic and Social
Analysis within the EcAp
implementation, on-going
work and beyond

Didier Sauzade

Plan Bleu for environment and development in the
Mediterranean



3rd Meeting of EcAp Coordination Group

Athens, 09 September 2013

The EcAp's Economic and Social Analysis (ESA)

ESA: additional to the State of the Environment: Physical and chemical, Biological characteristics, Habitat, Pressures and impacts

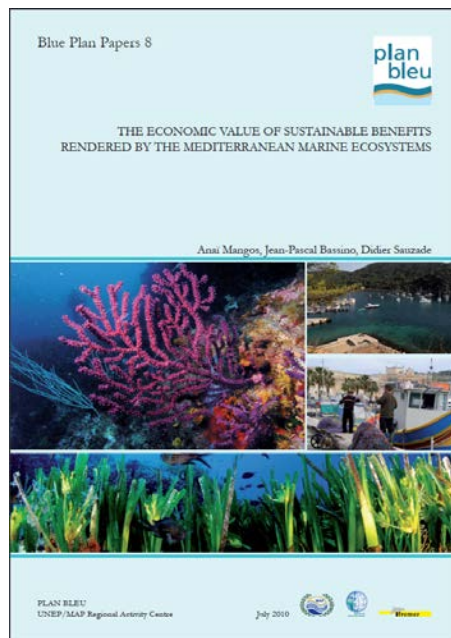
Pillars of the Ecosystem Approach, better understandings of the links between human activities and natural systems, context for development of targets and design of management measures

A new field calling for a pragmatic two steps approach:

- ✓ **The Economic value of the sustainable benefits rendered by Mediterranean ecosystems (2009)**
- ✓ **An ESA inspired the MSFD ESA, adapted to the Mediterranean context (2013-2015)**

EcAp ESA general objectives:

- ✓ **Develop acquaintance and appropriation of principles and methods**
- ✓ **Establish a common understanding and standards**
- ✓ **Consider common methodologies for ESA at different scales**



The EcAp COR ESA Group

ESA Expected Outputs:

- A regional analysis
- Guidelines for National Assessment adapted to non EU countries
- Pilot cases in Lebanon, Tunisia and Morocco

Implementation of the ESA correspondence group

- **With Correspondence Groups on GES – Targets and Monitoring**
- **Composed of national experts nominated by the Contracting Parties and international experts plus MAP Coordinating Unit.**

Objectives

- **Thematic forum, advisory committee on methodologies and approaches to select in order to achieve the ESA expected outputs**
- **Consider current available sources of information and socioeconomic data, as well as existing gaps**
- **Agree on an road map, considering the next COP (December 2013)**

First meeting: 11-12 April 2013

- **12 countries represented, half non EU**
- **International experts, including from the EC ESA WG**

The COR ESA Recommendations

The EC ESA WG guidance doc:

- Socio-economic analysis
- ✓ Ecosystem services
- ✓ Marine water accounts
- Cost of degradation
- ✓ The ecosystem approach
- ✓ Thematic approach
- ✓ The cost-based approach

ToR ESA

- **Prioritize integration with the other EcAp actions**

- ✓ Involve all MAP components
- ✓ mainstream ESA into work on GES, targets, monitoring and development revision of measures

Regional level ESA

- **Socio-economic analysis**

- ✓ Marine water account approach, demonstrative rather than exhaustive , focusing on main sectors

- **Cost of degradation**

- ✓ Various approaches possible, need of a scoping study
- ✓ Consider Cost of remediation, link to pressure on habitat of protected species

National Guidelines

- ✓ General and targeting to The non EU members, while coherent with MSFD
- ✓ Flexible, provide examples
- ✓ Include benchmarks on indicators (if applicable)

Links of COR ESA with Plan Bleu EcAp team

- ✓ Data exchange
- ✓ Identification of potential users to ensure national level ownership and implementation

I. The Regional Analysis, objectives and methods

To contribute generating a common knowledge regarding ESA within the Mediterranean region.

- **Develop a socioeconomic analysis of marine ecosystem uses within the Mediterranean region, and assess them at the sub-regional level**

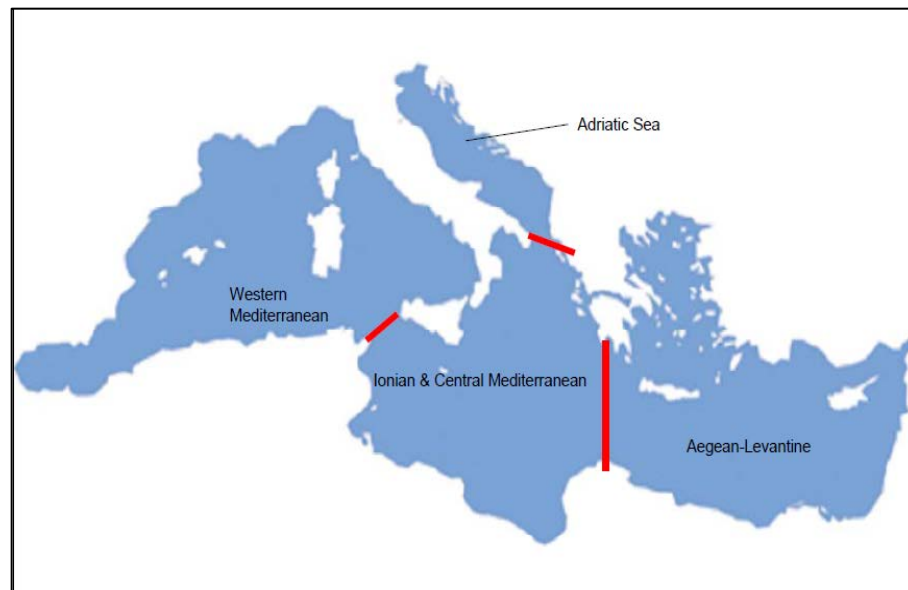
Method: EC ESA WG guidance, Marine Water Accounts Approach

Focus on priority sectors:

Fisheries, aquaculture, maritime transport, recreational activities, offshore oil and gas extraction

- **Evaluate costs of degradation for human wealth in the absence of the implementation of the relevant actions plans and programmes of measures aiming to achieve or maintain GES**

Method: EC ESA WG guidance, scoping study in progress to select most suitable approach



I. The Regional Analysis, objectives and methods

Mediterranean EU Member States: Implementation of art. 8c of the MSFD

	Cyprus	Greece	France	Italy	Slovenia	Spain	Malta
Economic and Social Analysis of the Use of Marine Waters							
Ecosystem Services Approach							n.av.
Marine Water Accounts Approach	X	X	X	X	X	X	
Cost of degradation							
Ecosystem Services Approach	X	X			X		n.av.
Thematic Approach			X				
Cost-based Approach			X	X		X	
Other: Identifying and Valuing current Marine Ecosystem Goods & Services					X		

I. The Regional Analysis, first results

Sector description: Fisheries in the Mediterranean Sea

Sector indicators

Fish Landings (2008/ 2011)

Region	Total
Mediterranean Sea (tons)	880 278
Total Western Mediterranean	28%
Total Adriatic Sea	32%
Total Ionian and Central Med	15%
Total Aegean-Levantine Sea	25%

Source: FishStat, 2013; Sacchi, 2011.

Number of Vessels (2008/2010)

Region	Total
Mediterranean Sea	72 820
Western Mediterranean Sea	27,6%
Adriatic Sea	12,3%
Ionian Sea and Central Med	29,9%
Aegean-Levantine Sea	30,2%

Source: GFCM, 2011-2013; Sacchi, 2011.

Economic indicators

Value of Fish Landings (2008)

Region	Gross values of fisheries (M dollars)	% of Total
Mediterranean Sea	4 609	
Western Mediterranean	1 246	27%
Adriatic Sea	2 006	44%
Ionian Sea and Central Med	300	7%
Aegean-Levantine Sea	1 056	23%

Source: Sacchi, 2011.

Social indicators

Employment in the 1ary Sector (2008)

Region	N° people	% of Total
Mediterranean Sea	232 420	
Western Mediterranean	66 650	29%
Adriatic Sea	47 440	20%
Ionian Sea and Central Med	58 800	25%
Aegean-Levantine Sea	59 530	26%

Source: Sacchi, 2011.

I. The Regional Analysis, first results

Fisheries in the Mediterranean Sea – Environmental impacts I

EOs – ECOLOGICAL OBJECTIVE		Description of Impacts			
		Fishing activity	By-catches	Discards	
EO1	Biological diversity	X	<ul style="list-style-type: none"> Nursery areas affected. Mortality of seabirds, monk seals and cetaceans due to food depletion. Deliberate killing of monk seals and cetaceans by fishermen. Damage or killing of species by entanglement in fishing gears (cetaceans, seabird s, sea turtles and monkseals). Illegal practices (e.g. local dynamite fishing) causing monkseal killing and inhibiting normal trophic behaviour of other species. Attraction of predator species (pelagic fishes and cetaceans) by lights of fishing vessels at night. 	<ul style="list-style-type: none"> Demersal and pelagic fisheries capturing non targeted species (chondrichthyans, elasmobranch-pelagic and demersal species). Accidental seabird captures in fisheries, especially for bottom and surface longliners (related to longline setting). Massive incidental catches of marine turtles (particularly for surface longlines, bottom trawls and gillnets, and also driftnet fleets). Incidental catches of cetaceans (driftnets, purse seiners and surface longlines, occasionally tuna traps). 	
EO2	Non - indigenous species	X	<ul style="list-style-type: none"> Fishing gears as a vector for NIS in localised areas 		
EO3	Commercial species	X	<ul style="list-style-type: none"> Severe decline of elasmobranch populations, unsustainable catches of rays including disappearance of certain taxa. Reduction of commercial species diversity Decline of fish abundances 	<ul style="list-style-type: none"> Fishing on juveniles affecting population dynamics, future fish cohort. 	<ul style="list-style-type: none"> Finning. Juvenile fractions suffering the most, since caught and discarded.
EO4	Food webs	X	<ul style="list-style-type: none"> Mortality of seabirds, monk seals and cetaceans due to food scarcity Deliberate killing of monk seals and cetaceans by fishermen. 		<ul style="list-style-type: none"> Seabird trophic habits changed (feeding on discards).
EO5	Eutrophication		-	-	-

I. The Regional Analysis, first results

Fisheries in the Mediterranean Sea – Environmental impacts II

EOs – ECOLOGICAL OBJECTIVE		Description of Impacts		
		Fishing activity	By-catches	Discards
EO6	Sea - floor	X	<ul style="list-style-type: none"> Mechanical impacts on vegetal, coralligenous surfaces, muddy, sandy or rocky habitats and communities and direct destruction of physical support. Dynamite fishing: affecting all ecosystem components, also demersal. Changes in demersal ecosystem structure and function (trawling, bottom-otter trawling). 	
EO7	Hydrographic conditions	x	<ul style="list-style-type: none"> Sediment resuspension. 	
EO8	Coastal areas's natural dynamics			
EO9	Contaminants	x	<ul style="list-style-type: none"> Oil releases from fishing vessels. 	
EO10	Marine Litter	x	<ul style="list-style-type: none"> Litter: "networks ghost", fishing nets discharged, abandoned or lost at sea/ "domestic" litter from fishermen. 	
EO11	Noise	x	<ul style="list-style-type: none"> Underwater noise generated by vessel engines. 	

I. The Regional Analysis, first results

Sector description: Tourism and recreational activities in the Mediterranean Sea

Sector indicators

Economic indicators

Social indicators

International arrivals (2011)

Region	N° arrivals	% of Total
Mediterranean Sea	150 107	
Western Mediterranean	57 754	38%
Adriatic Sea	41 311	28%
Ionian Sea and Central Med	5 968	4%
Aegean-Levantine Sea	45 074	30%

Source: UNWTO, 2013.

Revenues - Coastal tourism (2012)

Region	Revenue (M. Eur)	% of Total
Mediterranean Sea	250 786	
Western Mediterranean	90 686	36%
Adriatic Sea	91 405	37%
Ionian Sea and Central Med	5 745	2%
Aegean-Levantine Sea	62 950	25%

Source: WTTC, 2013.

Direct Employment (2012)

Region	N° people	% of Total
Mediterranean Sea	25 473	
Western Mediterranean	330	31%
Adriatic Sea	9 266	28%
Ionian Sea and Central Med	10 787	8%
Aegean - Levantine Sea	5 091	33%

Source: WTTC, 2013.

GVA - Coastal tourism (2012)

Region	GVA (M. Eur)	% of Total
Mediterranean Sea	135 233	
Western Mediterranean	48 761	36%
Adriatic Sea	48 462	36%
Ionian Sea and Central Med	3 980	3%
Aegean-Levantine Sea	34 030	25%

Source: WTTC, 2013.

Total Employment (2012)

Region	N° people	% of Total
Mediterranean Sea	11 176	
Western Mediterranean	283	32%
Adriatic Sea	4 524	27%
Ionian Sea and Central Med	4 326	6%
Aegean-Levantine Sea	2 043	36%

Source: WTTC, 2013.

I. The Regional Analysis, first results

Tourism and recreational activities – Environmental impacts I

EOs – ECOLOGICAL OBJECTIVE		Description of impacts		
		Coastal/ Construction of infrastructure	Recreation	
		Hotels, marinas, transport, waste water facilities	Golf courses, water sports, beach access, water parks, parking...	
EO1	Biological diversity	X	<ul style="list-style-type: none"> • Tourist facilities mostly developing near fragile marine ecosystems; • Altering species behaviour; • Loss of biodiversity in coastal terrestrial and marine areas, in particular rare, endangered or endemic species. 	<ul style="list-style-type: none"> • Bathing near turtle nesting sites; • Disturbing and altering natural behaviours of marine species: cetaceans, seals, seabirds, turtles, etc. • Extinction of population of certain species (e.g. Mediterranean monk seal) from areas where they were traditionally present.
EO2	Non – indigenous species			
EO3	Commercial species	X	<ul style="list-style-type: none"> • Seafood consumption: pressuring on local fish populations and even contributing to overfishing. 	
EO4	Food webs			
EO5	Eutrophication	X	<ul style="list-style-type: none"> • Local, derived from emptying untreated waste waters directly into the marine environment. 	<ul style="list-style-type: none"> • Releases of treated/ untreated waste waters, • Generation of a greater volume of waste water.
EO6	Sea - floor	X	<ul style="list-style-type: none"> • Alteration of water quality (e.g. turbidity, water transparency, sediment resuspension, sediment releases) affecting benthic habitats such as seagrass meadows, coralligenous assemblages, etc., leading to their destruction. 	<ul style="list-style-type: none"> • Boating, anchoring, diving, snorkelling affects seafloor habitats, including endemic seagrass meadows and coralligenous assemblages; • Extraction of building materials (e.g. sands) leading to erosion and destruction of habitats
EO7	Hydrographic conditions	X	<ul style="list-style-type: none"> • Sediment stirring up; • Development of marinas and breakwaters can cause changes in currents and coastlines. 	<ul style="list-style-type: none"> • Water shortages and degradation of water supplies; • Excessive extraction of water can result in water scarcity. If the water comes from wells, over pumping can cause saline intrusion into groundwater.

I. The Regional Analysis, first results

Tourism and recreational activities – Environmental impacts II

EOs – ECOLOGICAL OBJECTIVE		Description of impacts	
		Coastal/ Construction of infrastructure	Recreation
		Hotels, marinas, transport, waste water facilities	Golf courses, water sports, beach access, water parks, parking...
EO8	Coastal areas's natural dynamics	<ul style="list-style-type: none"> Artificialisation, compactation and sealing of the coastal fringe. Construction of tourist facilities causing severe disturbance and erosion of the local ecosystem. 	<ul style="list-style-type: none"> Large scale beach and sand dune erosion. Alteration of natural beach nourishment. Modification of dune soils, loss of natural vegetation, disturbance of sensitive wildlife and extra demands on limited water resources.
EO9	Contaminants	X <ul style="list-style-type: none"> Local, emptying sewage directly into the marine environment. Indirect inputs of pollutants from streams derived of torrential rainfalls. 	<ul style="list-style-type: none"> Releases of oil and chemicals.
EO10	Marine Litter	X <ul style="list-style-type: none"> Emptying wastes into the marine environment. 	<ul style="list-style-type: none"> Releases of solid waste and littering.
EO11	Noise	X <ul style="list-style-type: none"> Land-based sources of noise pollution. 	<ul style="list-style-type: none"> Noise from motor boats and jet skis, cars and buses, nightlife and other activities.

II. Guidelines for National Assessment adapted to non EU countries, objectives



➤ **Achieving GES within the Mediterranean Region involves developing action plans and measures at the regional and national levels**

➤ **Conducting ESA at national level is strongly recommended.**

➤ **Objective:**
Make recommendations regarding ESA at national level, particularly oriented to non-EU countries.

➤ **An outline of the Guidelines will be provided, built on:**

- Available methods developed in the framework of MSFD: guidelines and analysis already carried out.
- Experience gained in socioeconomic analysis in the Mediterranean region: exploratory analysis and pilot cases in Lebanon, Tunisia and Morocco.

II. Guidelines for National Assessment adapted to non EU countries, Outline of the Guide (I)

1. Introduction
2. ESA for EcAp's implementation
3. Definition of main key concepts
4. ESA of the use of marine waters:
 - 4.1 Different approaches:
 - Marine Water Accounts approach
 - Ecosystem Services approach
 - Differences between the approaches and recommendations
 - 4.2 Capturing the use of marine waters:
 - Economic activities, potential indicators of importance
 - Direct uses beside economic activities, potential indicators
 - Other benefits, indirect use-values
 - Non-use values

II. Guidelines for National Assessment adapted to non EU countries, Outline of the Guide (II)

5. Cost of degradation assessment

5.1 Different approaches for the assessment

- The Ecosystem Services approach
- The Thematic approach
- The Cost Based approach
- Differences between the approaches and recommendations

5.2 Valuation methods adapted to each approaches

- Valuations in qualitative, quantitative and monetary forms

6. Potential data sources, adapted to the Mediterranean context

- EU level and international organizations, DG mare, EEA, Eurostat, IMO, GFCM, others
- Barcelona Convention
- Relevant programmes and projects: EU (ODEMM, Know Seas, Sesame, Perseus) The World Bank METAP (Mediterranean Environmental Technical Assistance Programme)

7. Annexes

- Spatial, sectorial, and temporal aspects
- Lessons learnt from the MFSD, other Regional seas, EU projects such as Perseus and METAP in the Middle east and North Africa Region and Regoko Pilot cases.

Action updated timeline

Month Events /	09/2012	04/2013	07/2013	10/2013	12/2013	05/2014	07/2014
Actions	Start date				18 th COP		End Date
Regional scale analysis	Study start		Progress Report to be submitted to MAP FPs		Provisional report by COP 18		Final Report submitted to COP 19
Guidelines for National analysis		Start	Progress Report to be submitted to MAP FPs		Provisional report by COP 18		Final Report submitted to COP 19
COR GROUP ESA		CG ESA First meeting		Intermediate consultation before 18 th COP		CG ESA Intermediate Meeting	CG ESA continuation submitted to COP 19
Related Work Pilot case ESA (In the framework of the ReGoKo project)			Selection of consultants	Start of the Pilot cases; Morocco, Tunisia, Lebanon		End of the Pilot case	Final reports on Pilot cases submitted to COP 19

Next steps

- **Updating of socioeconomic analysis in form of Factsheets and preparation of the SOER 2017 for the next cycle.**
- **Assessment of the socioeconomic impacts of the coordinated programmes of measures.**

Assessment of the socioeconomic impacts of measures: context and methods

Ecosystem Based Mangt: Tight coupling between social and ecological systems :

- Step 3 Initial assessment
- Step 5 Definition of the operational Objectives
- Step 7 Elaboration of action plans and programmes to achieve GES

Several possibles approaches :

• Multi Criteria Analysis	• Environmental accounts
• Cost Benefits analysis	• Life cycle analysis
• Cost-effectiveness analysis	• Combinations of above

Scoping study required to select the best suitable approach

Assessment of the socioeconomic impacts of measures: Proposed program of work

A graduated approach supervised by the CG ESA :

- A scoping study on the most suitable methods giving recommendations for the next step, by COP 19
- An in-depth Socioeconomic Impact assessment study of envisaged measure for OO and targets, by COP20
- Actions to foster a common understanding within the Mediterranean countries, by COP 20
 - Guidelines for national implementations
 - National Pilot Cases



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