

MARINE STRATEGY FRAMEWORK DIRECTIVE MSFD Workshop

27 – 29 October 2015
ECRAN 60681

Practical approach on CBA in Romania in
case of MSFD. Particularities in considering
disproportionate costs



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Structure of the presentation

- ESA overview in Romania
- Interested area for application of measures
- Cost effectiveness analysis – RO approach
- Cost benefit analysis for WFD
- Cost benefit analysis for MSFD



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ESA Overview RO approach

2 possible approaches:

-based on marine ecosystem services

Gap: lack of empirical, analytical and integrated studies for an economic assessment of cost/benefits

- based on economic indicators in relation with the marine waters users

- Identification and description of interest area;
- Identification and description of the economic sectors in the relation with the use of marine waters;
- Identification and quantification of benefits of marine water users based on macro economic indicators (GDP, GVA , No employers, Revenues)
- Identification and possible monetary quantification of the impact economic sectors on marine environment.

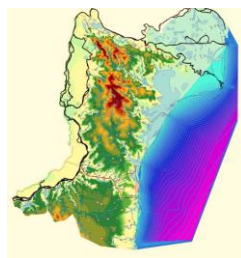
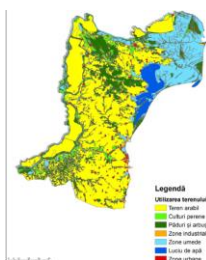


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Interested area: Coastal area, Marine Area, Hydrographic area Dobrogea



Hydrographic area
Dobrogea - Litoral

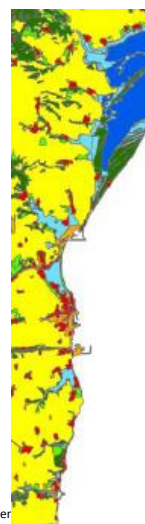
Nr.Crt	County	Surface (km²)	Population 2008	Population 2009	Population 2010
1	Constanța	7.071	718.330	722.360	723.796
2	Tulcea	3.742	235.641	247.444	245.899
3	Brăila	996	4.895	5.000	5.000
4	TOTAL	11809	958.866	974.884	974.965



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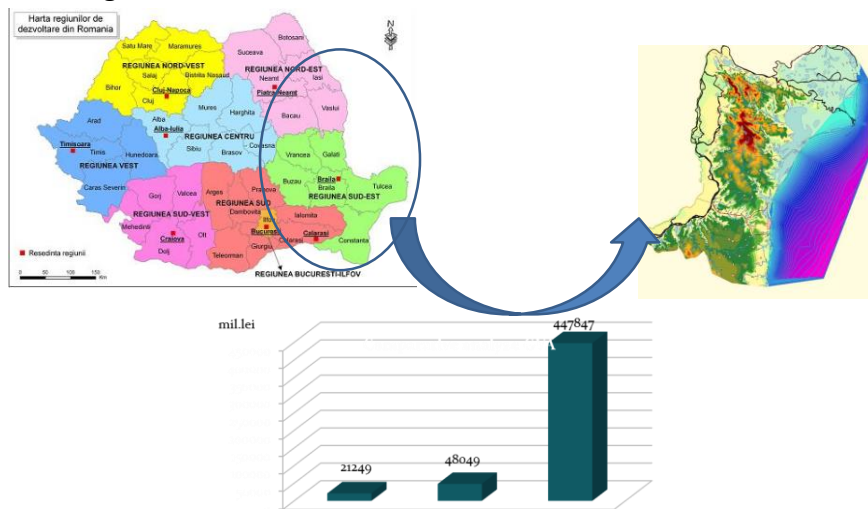


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Identification and description of the economic sectors in the relation with the use of marine waters

- based on macro economic indicators (GDP, GVA , No employers

Pressure	Economic activity	Subactivities/ Use the marine waters
Biological disturbance	Fishery	Capture of living resources Fish/Shellfish
Physical damages	Antropic structures	Flood protection for coastal area Harbors operations Location and operation of offshore structures (other than energy production) Oil/natural gas extraction
Other physical disturbance	Transport	Marine transport
	Turism	Marine liters Turism and recreation
	Ships constructions	
Nutrients and organic substances discharge	Human agglomerations //Industry /Agriculture	Industrial waste water discharge Waste water discharge from municipalities Nutrients discharge from Danube
Contamination with Hazardous substances	Industry	Hazardous substances discharge from Danube.

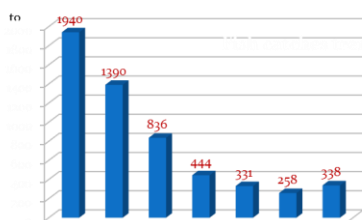


human dynamics public sector consulting

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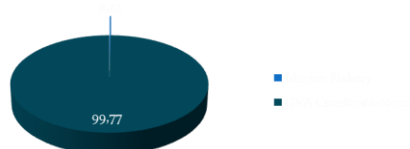
Identification and description of the economic sectors in the relation with the use of marine waters

Fishery



Production value of fish catches
 2011 - 2.33 mil lei (0.51 mil Euro)
 2012 - 2.27 mil. lei (0.50 mil lei)

Contribution of marine fishery in
the frame of Constanta GVA



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Cost effectiveness analysis (1)

Why we need to assess the cost-effectiveness of potential measures for achieving the environmental objectives set out in the MSFD ?

- Making judgements about the most cost effective **programme of measures** which could be implemented in order to bridge a potential gap in water status between the baseline scenario and the Directive's objectives ;
- Assessing the cost-effectiveness of **alternative measures** in order to estimate whether those programmes of measures are **disproportionately costly or expensive**



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Cost effectiveness analysis (2)

Costs and **effects** on water of the measures should be fully assessed by focusing on the largest cost components and the major determinants of the effectiveness of measures.

What question we should answer ?

- 1) CEA based on financial costs (as a proxy for economic costs) and estimates of water environmental costs;
- 2) CEA based on economic costs, including estimates of non-water environmental costs ;
- 3) CEA effectively being expanded to a **CBA, including wider economic costs and benefits**



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Cost effectiveness analysis (3)

Cost Considered in the CEA		
Actual cost of measure	Economic cost of measure	Definition Term
(Direct) financial cost of measure =CAPEX, OPEX, etc.	Adjust for taxes and subsidies if any	Direct, indirect, maintenance, and operating
+ associated water @ non-water environmental costs of measure ???	WTP to avoid damage WTP – willingness to pay	Non-water environmental costs
= Total cost	= Total social cost = Total economic cost	



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Cost effectiveness analysis (4)

CEA/CBA will sustain the decision-making process

Development the Program of measure & Prioritization of measures

- Transparency to stakeholders/public/EC, allowing consultation and experience exchange
- Stakeholders acceptance



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Cost effectiveness analysis (5)

Different scale for CEA assessment :

- CEA to compare individual measures
- CEA of measures grouped per descriptor/indicator/pressure reduction - measures may be combined or mutually exclusive
- CEA of various PoM scenarios:
 - To balance measures targeting various descriptors/indicators + addressing significant pressures



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Cost and Benefit Analysis

The analysis of **costs and benefits** remains in most cases the basis for **deciding on cost disproportionality** and implicitly on exemptions (WFD@MSFD)

It is important to see in which proportion the total costs of PoM related to different economic sectors could be considered disproportionate ? (which is the threshold for disproportionality)

Questions:

- whether social and distributional impacts, including ability to pay should be considered or not in the justification for exemption due to disproportionate costs;
- whether distributional impacts on the public budget should also be considered, as the public budget might have its own constraints and limitations (cost recovery, EU rules on budgetary deficit,...) that might hamper the implementation of measures.



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CBA approach for WFD

- Qualitative & Quantitative approach
- A **standard environmental benefit template** was developed for supplementary measures (WFD) similar the approach for MSFD
- Each **supplementary measures** was assessed in relation with standard environmental benefit template
- Only for supplementary measures related to **Nutrients pollution, organic and hazardous substances from human agglomeration and industry point pollution** sources a direct benefit analyse (cost – income) was assessed based on **NPV**



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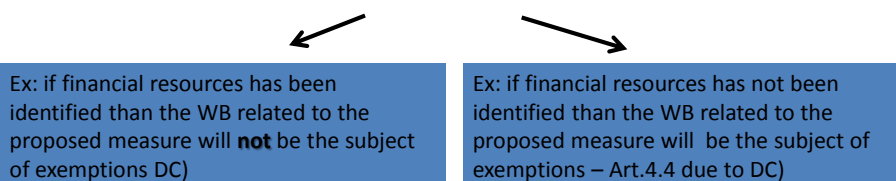


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CBA approach for WFD (2)

Estimation of cost benefit ratio < 1, > 1

Criteria : if the **benefit is above the total costs** than an financial affordability analyze was performed.



If the **benefit is less than total costs** than the WB related to the proposed measure will be the subject of exemptions – Art.4.4)



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CBA Approach MSFD (1)

Main steps

- Identification of benefits
- Qualitative description of benefits
- Ranking of benefits (equivalent)
- Valuation of benefits based on economic valuation
- Ranking the costs
- Cost benefit ratio

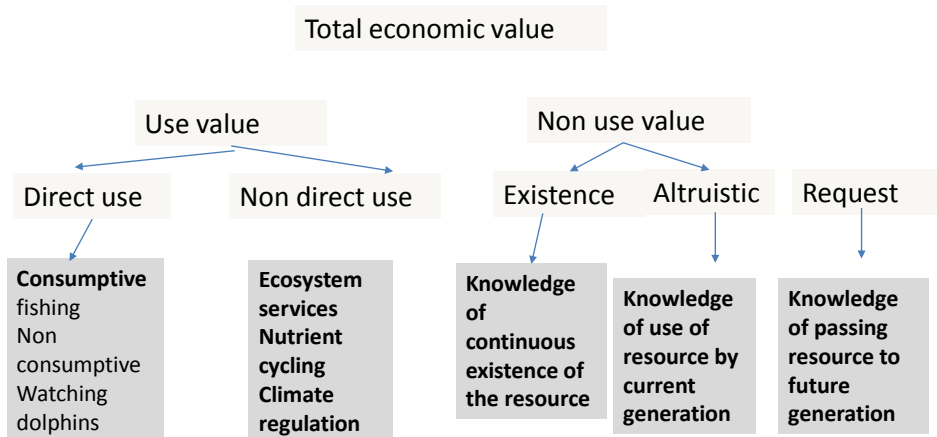


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CBA Approach MSFD (2)



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The measure: Designation of zones for beam trawling. Long-term observation on the impacts in the designated zones permitted for beam-trawling. Research on the activities. When necessary change of usage requirements.

> **What are the direct benefits from this measure?** (the environmental target) – less beam trawling – maintain the distribution of seabed species/habitats, reach MSY (by reduction of mortality)

> **Who will benefit from the impact of this measure?** Society through improved seabed, biodiversity and food chain

> **How ambiguous is the measure?** (How much of the GAP does it cover?)

How are the benefits estimated:

- > increase in income for the fishing sector in mid to long term
- > Example 2-5 fold if changing from present fishing regime to MSY, 8- 20 years till realised (source: OECD)
- > maintain quality of seabed habitats - CV of the protection of species.

Example from Dogger bank (17,600 km²)

- > protection of 10% species 5.7 Ȧ
- > protection of 20% species 7.2 Ȧ



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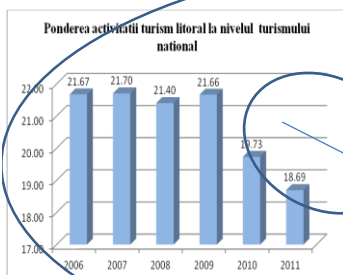


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CBA considers whether measures or a PoM would provide net gains to society

~ "Member States shall give due consideration to sustainable development and, in particular, to the social and economic impacts of the measures envisaged"

Tourism



- algae bloom !!!



- eutrophication

Nutrients
pollution

Human
agglomeration
Agriculture



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DPSIR



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Response

Measures
Danube wide scale
(DRBMP)
Coastal

BENEFITS

WTP study

- Increasing in number of tourists - 10%-15% in weekend
- Increasing in number of tourists per holiday - till 5%

If algae bloom will be not a problem do you intend to go more often to the seaside??

Increasing GDP for
tourism
....2-3%/year



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