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Subject:

"DITTY – Development of an Information Technology Tool for the Management of European Southern Lagoons under the influence of river-basin runoff"

"Deliver 22:

Report on stakeholder analysis" for DITTY project:

- Task 7.1 Identify economically relevant impacts of management options;
- Task 7.2 Stake-holder analysis: gainers and losers for each management options;
- Task 7.3 Monetary evaluation of costs and benefits (partial: first methodological approach)

Fernando Perna

Algarve DITTY WP7
7.1/7.2 Bivalve Farming

		7.2 Stakeholder analysis: gainers and losers for each management options										
Driver	Management options	7.1 Economically relevant impacts by	Stakeholders by Economic Sectors / Activities									
			Primary				Secondary		Terceary (leisure and tourism)			
			Agriculture	Fishing	Fish farming	Shelfish culture	Salt extraction	Extractive industry	Beach Activities	Nautical Sports	Nature animation circuits	Tourism Accommodation
Bivalve farming	Increase in the number of bivalve farming permissions		↔	↔	↔	↑	↔	↓	↔	↓	↔	↑
	Decrease in the number of bivalve farming permissions		↔	↔	↔	↓	↔	↑	↔	↑	↑	↓
	Increase the bivalve density		↔	↔	↔	↓	↔	↔	↔	↔	↔	↓
	Decrease the bivalve density		↔	↔	↔	↑	↔	↔	↔	↔	↔	↑

↑ gainer: positive impact ↓ loser: negative impact ↔ neutral: without relevant impact

Algarve DITTY WP7
7.1 / 7.2 Use of Salt Marshes Areas

		7.2 Stakeholder analysis: gainers and losers for each management options										
Driver	Management options	7.1 Economically relevant impacts by	Stakeholders by Economic Sectors / Activities									
			Primary				Secondary		Terceary (leisure and tourism)			
			Agriculture	Fishing	Fish farming	Shelfish culture	Salt extraction	Extractive industry	Beach Activities	Nautical Sports	Nature animation circuits	Tourism Accommodation
Salt Marshes Areas	Loss salt marshes areas (permission for tourism and navigation facilities)		↔	↓	↓	↓	↓	↑	↔	↑	↓	↑
	Recovery salt marshes areas		↔	↑	↔	↑	↑	↔	↔	↔	↑	↔

↑ gainer: positive impact ↓ loser: negative impact ↔ neutral: without relevant impact

Algarve DITTY WP7

7.1 – 7.2 Increase Population (resident and non resident-tourism)

		7.2 Stakeholder analysis: gainers and losers for each management options										
Driver	Management options	7.1 Economically relevant impacts by	Stakeholders by Economic Sectors / Activities									
			Primary				Secondary		Terceary (leisure and tourism)			
			Agriculture	Fishing	Fish farming	Shelfish culture	Salt extraction	Extractive industry	Beach Activities	Nautical Sports	Nature animation circuits	Tourism Accommodation
Increase population (resident and non resident-tourism)	With changes of treatment plants location and of discharge flows		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
	Without changes of treatment plants location and of discharge flows		↓	↓	↓	↓	↓	↑	↓	↓	↓	↓

↑ gainer: positive impact ↓ loser: negative impact ↔ neutral: without relevant impact

Algarve DITTY WP7
7.1 – 7.2 Water circulation

		7.2 Stakeholder analysis: gainers and losers for each management options									
Driver	Management options	Stakeholders by Economic Sectors / Activities									
		Primary				Secondary		Terceary (leisure and tourism)			
		Agriculture	Fishing	Fish farming	Shelfish culture	Salt extraction	Extractive industry	Beach Activities	Nautical Sports	Nature animation circuits	Tourism Accommodation
Water Circulation	Dredging	↔	↑	↑	↑	↑	↑	↑	↑	↔	↑
	Opening inlets	↔	↑	↑	↑	↔	↑	↔	↔	↑	↑
	Closing inlets	↔	↓	↓	↓	↔	↓	↔	↔	↓	↓

↑ gainer: positive impact ↓ loser: negative impact ↔ neutral: without relevant impact

Algarve DITTY WP7

7.3 Monetary valuation of costs and benefits: [first methodological step](#)

SWOT Analysis

		7.3 Monetary valuation of costs and benefits (partial: first approach)										
		Stakeholders by Economic Sectors / Activities										
		Primary			Secondary		Terceary (leisure and tourism)					
		Agriculture	Fishing	Fish farming	Shellfish culture	Salt extraction	Extractive industry	Beach Activities	Nautical Sports	Nature animation circuits	Tourism Accommodation	
SWOT Analysis	Internal	Strengths	Climate	Natural environment	Associations	Natural environment	Natural Park support	Comercial standings	Natural environment	Population growing interest	Young managers	Reesort tradition
		Weaknesses	Distribution channels	Illegal practices	Lack of credit support	Distribution channels	Human resources (hard work)	Lack of fiscalization	Sazonality of labour contracts	Lack of financial capacity	Lack of nature guides	Environmental information
	External	Opportunities	Regional gastronomy	Regional gastronomy	Scientific support by University	Long-term dreging effects	Ecological product	Regular activity	Illegal residences on beaches	New facilities for yachting	Small concurrence levels	Ecotourism
		Threats	Illegal practices	Illegal practices	Foreign competitors	Illegal practices	Lack of comercial distinction between products	Poor social image	Regional planning delay (POOC)	Controverse legislation	High burocracy	To much pressure on natural resources

Algarve DITTY WP7

7.3 Monetary valuation of costs and benefits: [second methodological step](#)

Indicators for economic (and monetary) evaluation - Work in progress...

7.3 Monetary valuation of costs and benefits (partial: first approach)

Indicators for economic (and monetary) evaluation - Work in progress...

Note: All variables and values are from the year 2001 and aggregate the municipalities of Faro, Olhão and Tavira. Exceptions are signposted.

1. Variable name	Domestic and services wastewaters discharges (1000 m ³)
Variable sector	Terceary
Year 2001 value	6184
Source	National Institute of Statistics (2001)

2. Variable name	Industrial wastewaters discharges (1000 m ³)
Variable sector	Terceary
Year 2001 value	1408
Source	National Institute of Statistics (2001)

3. Variable name	Aquaculture production on shellfish culture (ton. year)
Variable sector	Primary
Year 2001 value	7.417,5
Source	Direcção Regional das Pescas do Algarve (2001)

4. Variable name	Aquaculture production on fish farming (ton. year)
Variable sector	Primary
Year 2001 value	2.745,4
Source	Direcção Regional das Pescas do Algarve (2001)

5. Variable name	Number of employed by economic sector
Variable sector	Primary – secondary – terceary
Year 2001 value	4.326 – 12.044 – 39.482
Source	National Institute of Statistics (2001), Census 2001

6. Variable name	Employment distribution by economic sector
Variable sector	Primary – secondary - terceary
Year 2001 value	7,7% – 21,6% – 70,7%
Source	National Institute of Statistics (2001), Census 2001

7. Variable name	Resident population
Variable sector	Aggregate: Primary – secondary – tertiary
Year 2001 value	124.000
Source	National Institute of Statistics (2001), Census 2001

8. Variable name	Average salary by employed (euros)
Variable sector	Aggregate: Primary – secondary – tertiary
Year 2001 value	571 – 642 – 667
Source	National Institute of Statistics (2001)

9. Variable name	Number of Unemployed
Variable sector	Aggregate: Faro - Olhão - Tavira
Year 2001 value	1.683 - 1439 - 698
Source	National Institute of Statistics (2001), Census 2001

10. Variable name	Unemployment rate (%)
Variable sector	Aggregate: Faro - Olhão - Tavira
Year 2001 value	5,6% - 7,6% - 6,4%
Source	National Institute of Statistics (2001), census 2001

11. Variable name	Total number of beds at classified accommodation (2002)
Variable sector	Tertiary
Year 2001 value	39.688
Source	National Institute of Statistics (2003),

12. Variable name	Total number of tourists at classified accommodation (2002)
Variable sector	Tertiary
Year 2001 value	701.620
Source	National Institute of Statistics (2003)

13. Variable name	Number of fisherman: Ports of Olhão and Tavira
Variable sector	Primary
Year 2001 value	3.941
Source	Direcção Regional das Pescas do Algarve (2001)

14. Variable name	Gross production by typology (ton. year) Ports of Olhão and Tavira
Variable sector	Primary: Fish - Crustacea - Molluscs
Year 2001 value	11.554 - 8 - 3.528
Source	National Institute of Statistics (2001), Fish Statistics

15. Variable name	Fisheries Gross production by tipology (million euros year) Ports of Olhão and Tavira
Variable sector	Primary: by Fish - Crustacea - Molluscs
Year 2001 value	18.046 - 33 - 109.941
Source	National Institute of Statistics (2001), Fish Statistics

16. Variable name	Fisheries Gross production (ton. year) Ports of Olhão and Tavira
Variable sector	Primary: Total
Year 2001 value	14.109
Source	National Institute of Statistics (2001)

17. Variable name	Total volume of dredging at PNRF (ton. Year)
Variable sector	Secondary
Year 2001 value	
Source	

18. Variable name	Total value of dredging at PNRF (ton. Year)
Variable sector	Secondary
Year 2001 value	
Source	

19. Variable name	Total volume of salt extraction at PNRF (ton. year)
Variable sector	Secondary
Year 2001 value	
Source	

20. Variable name	Total value of salt extraction at PNRF (euros year)
Variable sector	Secondary
Year 2001 value	
Source	

21. Variable name	Total volume of salt extraction at PNRF (ton. year)
Variable sector	Secondary
Year 2001 value	
Source	

22. Variable name	Total value of salt extraction at PNRF (euros Year)
Variable sector	Secondary
Year 2001 value	
Source	

23. Variable name	Total investment on POOC (euros: total 2002-2011)
Variable sector	Aggregate: Primary – secondary – tertiary
Year 2001 value	82.683.550
Source	Plano de Ordenamento da Orla Costeira VIlmaoura-VRSA (2004)

24. Variable name	Total number of visits to PNRF barrier islands (2003)
Variable sector	Tertiary
Year 2003 value	864.525
Source	IPTM (2004), data estimates by Fernando Perna.

25. Variable name	Individual average value for willingness to pay for each visit to barrier islands (euros: 1999)
Variable sector	Tertiary: min. value - max. value
Year 2001 value	0,76 - 1,24
Source	Fernando Perna (2003), Técnicas de Valorização contingencial aplicadas ao ambiente, tese de doutoramento, FEUA.

26. Variable name	
Variable sector	
Year 2001 value	
Source	

Algarve DITTY WP7

7.3 Monetary valuation of costs and benefits: [third methodological step](#)

Table for economic (and monetary) evaluation impacts - Work in progress...

Driver	Management Options Signal	Measure Impacts on labour and production	Economically quantified		
			Primary	Secondary	Terceary
Bivalve farming	↑ ↓	Labour	X		
		Production	X		X
Salt Marshes Areas	↑ ↓	Labour		X	
		Production		X	X
Increase population (resident and non resident- tourism)	↑ ↓	Labour			X
		Production			X
Water Circulation	↑ ↓	Labour			
		Production	X	X	X