

STAKEHOLDERS' VISIONS ABOUT ENVIRONMENTAL INITIATIVES: AN ITALIAN CASE STUDY

Carlo Pipitone

CNR - IAS

National Research Council

Institute of Anthropic Impacts and Sustainability in marine environment

PALERMO, ITALY

carlo.pipitone@cnr.it

with Arturo Zenone, Fabio Badalamenti and Giovanni D'Anna



**CNR
IAS**
ISTITUTO PER LO STUDIO
DEGLI IMPATTI ANTROPICI
E SOSTENIBILITÀ
IN AMBIENTE MARINO

source: seaforestlife.eu



 **ciimar**
Centro Interdisciplinar
de Investigação
Marinha e Ambiental

***Posidonia oceanica*:**

- Mediterranean endemic seagrass;
- from 1 to 40 m depth;
- high biological diversity supported;
- ecosystem services provided:
 - oxygen production
 - carbon sequestration
 - nutrient recycling
 - protection against coastal erosion
 - provision of fisheries resources.





Posidonia oceanica is protected!

- habitat type of Community interest for conservation under the Habitat Directive (92/43/EEC)
- protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona Convention)
- biological quality element in the Water Framework Directive
- a target for Good Environmental Status in Mediterranean countries according to the

Despite protection:

about 34% regression in the last 50 years!

Main impact: infrastructural coastal works (harbours, pipelines, etc.).

According to the law: **a damage caused by coastal works must be compensated.**



Possible compensation measure: **transplantation**

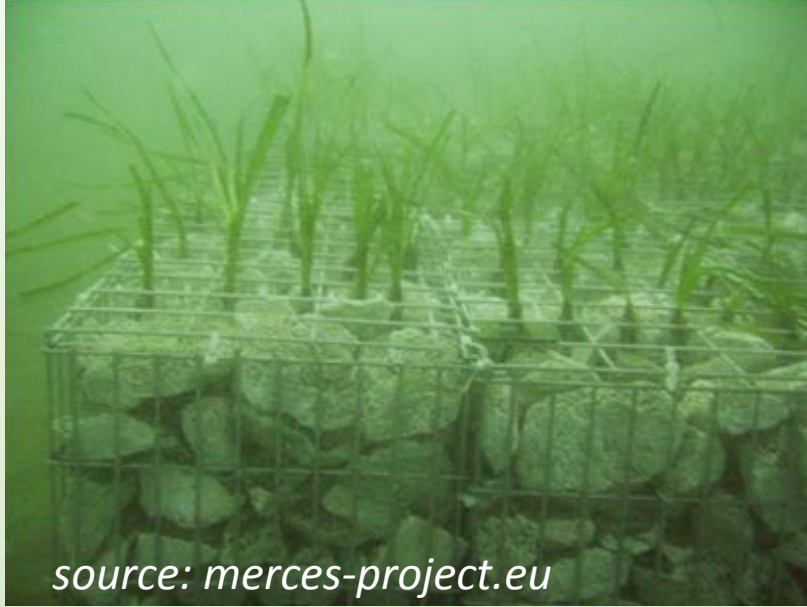
- often used
- several different techniques
- effectiveness still debated

Main **questions** related to transplantations:

- selection of the **transplantation technique**
- selection of suitable **recipient sites**
- **monitoring**
- sharing of and **access to collected data**
- **access to the results** about the effectiveness of the transplantation.

**WHAT DO STAKEHOLDERS THINK OF SEAGRASS TRANSPLANTATIONS?
STAKEHOLDERS' VISION IS CRUCIAL TO INFORM GOOD
ENVIRONMENTAL GOVERNANCE**

TRANSPLANTATION TECHNIQUES



Supporting Environmental governance for the *POSidonia oceanica* Sustainable transplanting Operations **S.E.POS.S.O. LIFE project**



- A chance to investigate stakeholders' attitudes about seagrass transplantations as a habitat restoration measure
- A rich and diverse stakeholder panel
- Several case studies available in Italian waters
- Zenone et al., *Sustainability* (2021)



OBJECTIVE OF THE STUDY:

evaluate the **views and attitudes** of selected stakeholders about the objectives, characteristics, and results of *P. oceanica* transplantations realized as a compensation after human impacts

METHODS:

- **Four *P. oceanica* transplants** realized in Italy between 2004 and 2014
- **Q methodology** approach:
 - This is complicated! In a nutshell:
 - 37 statements** concerning *P. oceanica* transplantations
 - selection of an 'audience' of **22 interviewees** (=people informed about *P. oceanica* transplantations) for statements scoring
 - ranking, statistical analysis, and interpretation** of statements
 - identification of **visions**



No.	Statement
1	A transplantation technique that is considered the most appropriate to the transplant site should be adopted
2	The information that leads to choose the transplantation as a compensation measure should be clear and easily accessible
3	A mismatch between administrative and technical terminology exists in the EIA prescriptions that impose the transplantation
4	The choice of the transplantation technique should be based on an accurate environmental study of the transplant site
5	A marine protected area should be established in addition to the transplantation to assure the full restoration of ecosystem functions lost due the infrastructural works
6	<i>P. oceanica</i> transplantations are not a priority for the country
7	Among compensation measures, public meetings should be held to awaken the public opinion to conservation and environmental issues
8	The choice of the transplantation technique should be based on the most recent scientific knowledge
9	Social acceptance of the infrastructural works and of the compensation measures is a prerequisite to a good governance of the transplantation initiative
10	<i>P. oceanica</i> should be protected, not transplanted
11	<i>P. oceanica</i> is a waste
12	A transplantation initiative should involve local skills, abilities, and cultural heritage
13	Pilot transplantations should be realized in the identified transplant site before the start of the infrastructural works
14	Monitoring outputs should be made public in an easily accessible and understandable format
15	A transplantation should produce easily accessible new knowledge and data
16	Maritime infrastructural works are necessary to the economic growth of the country
17	Priority habitats as defined by the EC Habitat Directive should never be impacted by infrastructural works
18	The environmental effects of a transplantation should be made public
19	EIA prescriptions should be drawn up by a multidisciplinary expert team
20	Transplantations should be bound to the stakeholders' acceptance
21	The main aim of EIA should be ecosystem protection
22	Transplantations should always be realized by an experienced team
23	A transplant alone cannot warrant all the ecosystem functions originally provided by the damaged seagrass meadow
24	The restoration of lost ecosystem functions is more important than economic convenience in the choice of transplantation technique
25	Tenders for the allotment of a transplantation initiative should not be based solely on a lowest-bid contract
26	Economic development should not be subject to extreme conservation logics
27	The citizens should be fully informed about objectives, techniques, and costs of a transplantation initiative during its early stages, not merely after its completion
28	Links and synergies among the stakeholders directly involved in a transplantation initiative are insufficient
29	Transplantation initiatives should be fully regulated
30	The governance of a transplantation initiative should be adapted to the local socio-economic context
31	Transplant monitoring should be carried out by an external scientific team rather than by the one who realized the transplant
32	The creation of centers for the collection and storage of beach-cast rhizomes and seeds of <i>P. oceanica</i> is a priority
33	Transplant monitoring should be a long-term activity
34	The data collected before and after realized transplantations are not adequately organized, shared, and exploited
35	The loss of <i>P. oceanica</i> meadows is an inevitable cost of modernization
36	To avoid tensions, transplantation initiatives should be based on the agreement of all (national, regional, local) political actors
37	All steps of a transplantation initiative should be traceable, clear, and accessible

EXAMPLES OF STATEMENTS:

- Transplant monitoring should be a long-term activity
- The data collected before and after transplantations are not adequately organized, shared, and exploited
- The loss of *P. oceanica* meadows is an inevitable cost of modernization
- To avoid tensions, transplantation initiatives should be based on the agreement of all (national, regional, local) political actors
- All steps of a transplantation initiative should be traceable, clear, and accessible

RESULTS AND THEIR INTERPRETATION

Four visions or *discourses*:

F1: **Science and Conservation** discourse

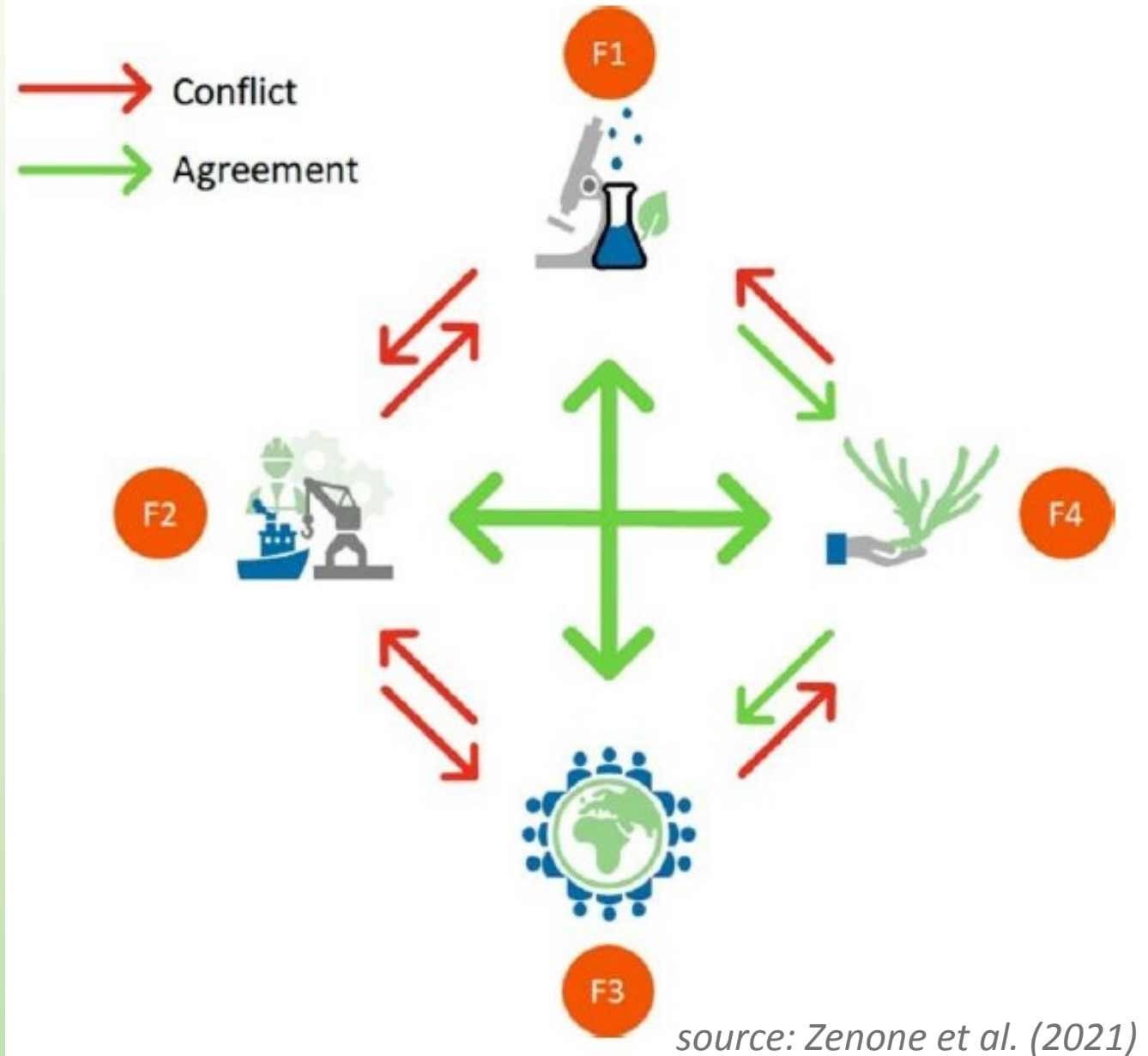
F2: **Engineering and Industry** discourse

F3: **Environmentalism and Participation** discourse

F4: **Transplantation-Oriented** discourse

CONCLUSIONS

- The Q methodology approach has highlighted **consensus** points and, more importantly, **conflicts** that need to be **addressed and resolved *prior to transplantations*** in order to assure **high social acceptability** in any future **initiative** concerning *P. oceanica* transplantations.
- This applies to **all environment-related initiatives** (Aarhus Convention)





AARHUS CONVENTION
for our environment

Three pillars:

- **Access to information:** **public authorities should provide** in a timely, transparent and easily accessible manner **all the information** related to environmental matters
- **Public participation in decision making:** the public should be allowed **to participate to decisional processes** in environmental matters, offering local knowledge and expertise that may be crucial to improve the final decisions and to help their public acceptance
- **Access to justice:** the public has the right to **proceed legally** in case a Party fails to obey to the convention's principles.

D'Anna G., et al. (2016) - Governance analysis in the Egadi Islands Marine Protected Area: A Mediterranean case study. *Marine Policy*, 71: 301-309.

Zenone A., et al. (2021) - Stakeholders' Attitudes about the Transplantations of the Mediterranean Seagrass *Posidonia oceanica* as a Habitat Restoration Measure after Anthropogenic Impacts: A Q Methodology Approach. *Sustainability*, 13: 12216.

Rossi V., et al. (in prep.) - Publicly accessible online information on marine protected areas fails to meet international standards for participation and environmental justice under the Aarhus Convention

**THANK
YOU!**

carlo.pipitone@cnr.it