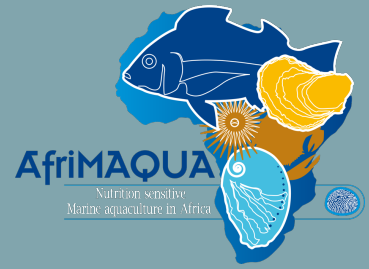




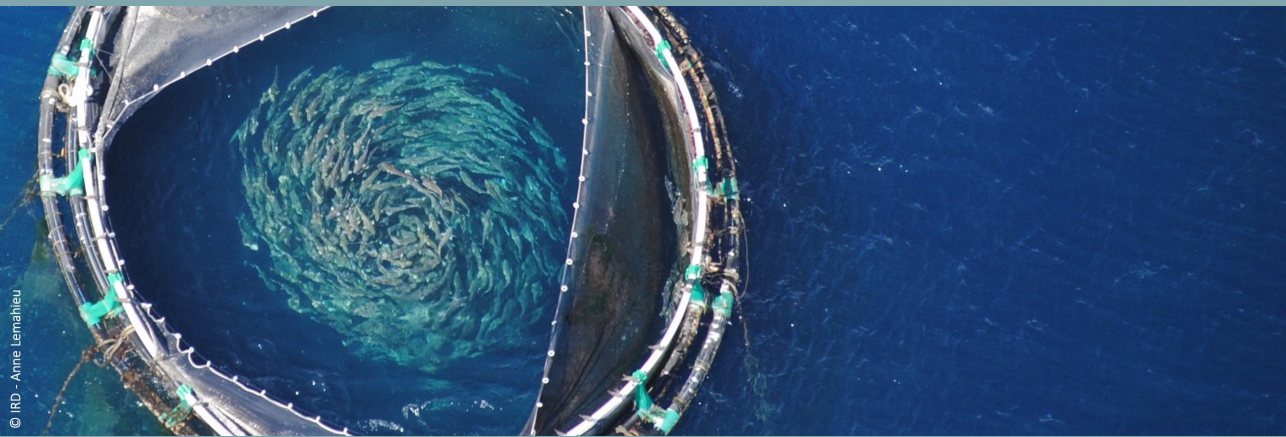
2021 United Nations Decade
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AfriMAQUA 2023 CONFERENCE

TOWARDS A MORE SUSTAINABLE AQUATIC FOOD
SYSTEM: INTERDISCIPLINARY RESEARCH ON
SUSTAINABLE MARINE AQUACULTURE IN AFRICA

BOOK OF ABSTRACTS



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23-28 OCTOBER 2023
MOMBASA, KENYA



Social acceptability and governance of aquaculture developments. Issues, challenges and recent experiences

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Marine aquaculture is facing a wide range of challenges, which threaten further development, competitiveness and sustainability. Because producers develop their activity within a complex regulatory, institutional and social framework, social constraints become major issue beyond of profitability and environmental ones. Understanding the social bottlenecks that lead to the stagnation of aquaculture development has been an area of study frequently overlooked. But beyond the classic approaches of spin-offs or jobs, which more often provide material for communication or promotion of a sector rather than questioning its sustainability, the social dimensions of aquaculture development can also be understood in its wider public dimension. The social acceptability as an understanding of the acceptability of aquaculture development by the society and not limited to its solely social dimension, allows for integrating ecological, economic and social dimensions of Aquaculture Development to re-drive this development to a more sustainable path. It allows to reposition governance at the core of sustainability and address the territorial dimension of aquaculture development by co-constructing the aquaculture vision of a territory before entering into sites selection and carrying capacity. It rather pledges for an integrated approach of the carrying capacity concept encompassing the ecological, the economic and the social carrying capacity.

Based on the institutional dimension and acceptability of aquaculture, the conditions for implementing such an approach to aquaculture development are under question and call for some recommendations: i) support countries in developing strategic aquaculture development plans and include provisions to improve the social acceptability; ii) the establishment and implementation of good governance mechanisms, iii) the fostering of the adoption of appropriate policy instruments and decision-making processes in order to enhance participatory approaches and open and broad dialogue with the industry, all aquaculture subsector and local communities; and improve general public knowledge and perceptions of aquaculture.



AfriMAQUA International Conference
Towards a more sustainable aquatic food system: Interdisciplinary
research on sustainable marine aquaculture in Africa
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Social acceptability and governance of aquaculture developments.
Issues, challenges and recent experiences.

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Aquaculture development and the social dimension

- Aquaculture development is not only a technological issue
- The complexity of the Social Ecological Systems where aquaculture takes place requires to enlarge the vision under an Ecosystem Approach (Soto et al., 2008)
- Social dimension (acceptability) appears as one of the main challenge today in Aquaculture Development
 - (The Future of European Aquaculture - EATiP 2012, Aquamed project, COFASP Workshop 07/2015, Regional Conference “Blue Growth in the Mediterranean and the Black Sea: developing sustainable aquaculture for food security” 9–11 December 2014, EU, COM(2013) 229 final, Hichmmaunda, Blue Growth conf. 2014) , etc.
- **Aquaculture development is also a SOCIAL CONCERN** (use of collective resources, competition for resources and space, environmental and socioeconomic responsibility of producers, food safety, social objectives of aquaculture, etc.)

There are needs to:

- **Understanding the social bottlenecks** that lead to the stagnation of the sustainable aquaculture development requires the **identification of the social needs** related to aquaculture in terms of space, technology, safety and healthy food, environmental friendly products, wellbeing, etc.
- Accompanying the development of a strategy for sustainable aquaculture development by the construction of a **global strategy to enhance social acceptability**.
- **Testing protocols and tools for stakeholders' engagement**

Social, as the public dimension, is then much more than the solely gender or employment issues usually addressed and encompasses as well some of the ecological and economic dimensions. Social Acceptability (SA) could then be rephrased by “acceptability by the society” or “societal acceptance”. Assessment of SA is then an holistic assessment.

- ✓ Emerging private or public initiatives which mobilize **novel uses** of marine common resources or space (Blue Economy, Blue Growth...)
- ✓ The **opposition** often emerges through **different social processes** that are important to understand and consider in decision-making and governance. This issue refers to the concept of multi-level governance and how social acceptability is influencing.
- ✓ Coordination (supra local scale) vs implementation (local scale)
- ✓ At local level **social opposition** can be shaped, created or reinforced by different **arguments** put forward by stakeholders that may be related to economic, ecological or social dimensions.
- ✓ **Increasing opposition** to public decisions from different stakeholder groups despite the existence of procedures of public consultation in decision-making processes.

B.C. fish farms will require Indigenous consent

JUSTINE HUNTER >
VICTORIA
PUBLISHED JUNE 19, 2018



A salmon fish farm located in the waters just off the northern end of Vancouver Island.

RICK COLLINS/THE GLOBE AND MAIL

The B.C. government is poised to give an effective veto to First Nations over fish farm tenures in their territories, a historic concession that reaches beyond the traditional court-ordered requirement that [Indigenous groups be consulted and accommodated on resource decisions on their lands](#).

<https://www.theglobeandmail.com/canada/british-columbia/article-bc-fish-farms-will-require-indigenous-consent/>

Alerta ambiental en La Vila ante una nueva piscifactoría

SILVIA YUS ▾ Villajoyosa 2 AGO. 2017 | 08:36



Pescadores faenando este martes en el Puerto de Villajoyosa / LARS TER MEULEN

- La UA avisa de que el proyecto podría hacer "inviabile" el mantenimiento del yacimiento arqueológico submarino del pecio Bou Ferrer
- El alcalde asegura que recurrirá a los tribunales si Consellería da permiso al proyecto

<http://www.elmundo.es/comunidad-valenciana/alicante/2017/08/02/598172b2ca4741cd4a8b459f.html>

TRENDING

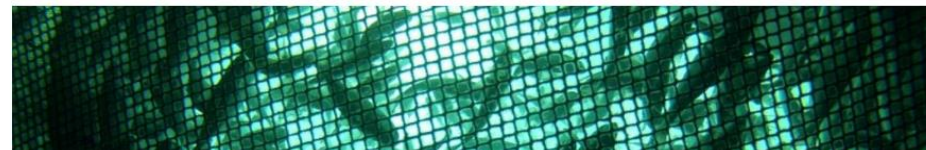
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- 5 Bottle to casks th globally

Many examples of social reject of aquaculture

L'aquaculture française toujours à la peine malgré une demande qui explose

Nicolas Gubert, H  lene Duvigneau | 21/09/2017 10h05

Partager Twitter



En progression constante dans le monde, l'aquaculture souffre en France de handicaps qui ob  rent son d  veloppement: acceptabilit   par la population et difficult  s d'acc  s au foncier.

Alors que la consommation humaine de poissons issus de l'aquaculture a d  pass   celle permise par la p  che et que la demande est de plus en plus   lev  e, la production aquacole stagne en France depuis les ann  es 1990.

"La consommation de truite fum  e est en hausse de 10    12% par an depuis 10 ans en France. Or...



<http://www.lavoixdunord.fr/221276/article/2017-09-21/l-aquaculture-francaise-toujours-la-peine-malgre-une-demande-qui-explose>



<http://reclaimthesea.org/years-of-wrongdoing-territorial-disarticulation-and-the-current-chiloe-crisis/>

Fishing groups oppose carp farm

4 Feb, 2016 12:30pm

2 minutes to read



Carp farm.

By: Laurilee McMichael

Laurilee McMichael is editor of the Taupo & Turangi

Weekender

laurilee.mcmichael@nzme.co.nz TaupoWeekender



Conservation Minister Maggie Barry has given the go-ahead for a carp farm despite strong opposition from fishing groups who say a carp escape could Taupo within a generation.

https://www.nzherald.co.nz/rotorua-daily-post/news/article.cfm?c_id=1503438&objectid=11584399

Moules sur filières. L'expérimentation suspendue à Saint-Coulomb

Modifié le 10/12/2014 à 16:22 | Publié le 09/12/2014 à 17:15



Saint-Malo

Une marche bleue pour défendre le littoral

Une trentaine de personnes se sont rendues à la Délégation à la mer et au littoral, hier matin. Des observations sur le futur schéma des cultures marines ont été déposées.

Pourquoi ? Comment ?

Pourquoi cette marche bleue ?

Dans le cortège qui s'est rendu, hier matin, à la Délégation à la mer et au littoral, on pouvait voir des brassards et des drapeaux bleus. Une couleur qui rappelle celle de la mer, de l'eau et du pavillon bleu, cher aux communes littorales. Il s'agissait de marquer les esprits pour les associations de défense de l'environnement. Elles s'étaient mobilisées, hier, dernier jour de la consultation publique sur le schéma des structures des exploitations de cultures marines.

Le schéma des cultures marines, c'est quoi ?

Un arrêté qui encadre les activités conchylicoles, sur le domaine public maritime. Il définit les bassins de production, les pratiques de cultures, les densités maximales, les taux d'ensemencement... Dans le département, existe un schéma des structures d'exploitations de cultures marines depuis 2010. Il a été amendé à plusieurs reprises. Le futur schéma, qui intègre de nouvelles exigences environnementales, est le résultat de six mois de cogitation.

Les associations environnementales ? L'Association pays d'Emme-mer environnement, a été la première à déposer sa pétition en ligne. Elle s'oppose



Les défenseurs de l'environnement ont déposé leurs avis et observations, hier matin, à la Délégation de la mer et du littoral, dans le quartier de la Découverte, à l'issue d'une marche bleue.

au nouveau schéma qui, selon elle, va aboutir à « une densification des exploitations marines, qui vont reproduire en mer les erreurs de l'agriculture intensive à terre : surexploitation, épuisement des ressources, concentration, privatisation au profit des grosses sociétés. » Elle ne veut pas d'exploitation d'espèces d'origine extérieure au littoral breton,

et d'espèces manipulées comme les huîtres triploïdes.

Elle dénonce également le « huis clos conchyliculteurs-Etat, qui décide seuls, au sein de la commission des cultures marines, de l'avenir du littoral et de la mer. » Bretagne vivante et Eau et rivières de Bretagne sont sur la même longueur d'onde, ainsi que les Amis du rivage de la baie du Mont-Saint-Michel. Cette dernière association va même plus loin, en anticipant « une modification des courants et une hausse de l'envasement de la baie », par la voix de son président, Pierre Lebas.

Que disent les services de l'Etat ?

Le futur schéma ne crée pas de droits nouveaux pour des concessions de cultures marines. Chaque projet restera soumis à une enquête publique, à une enquête administrative, et à l'avis de la commission des cultures marines.

Comment cela va-t-il se passer maintenant ?

La consultation publique est terminée. Les défenseurs de l'environnement ont fait part de leurs observations et des signatures de pétition. Le dossier va être instruit par les services de l'Etat. Puis, l'arrêté sera signé par le préfet, après la prise en compte des avis déposés. A moins qu'un grain de sable ne vienne enrayer la machine.

Isabelle LÉ.



Protesta contra la construcción de una piscifactoría

La Junta archiva definitivamente el proyecto de mejilloneras



La Plataforma contra las mejilloneras de Almuñécar protestan para que no se ubiquen en Punta de la Mona / Cadena Ser

No site creation in France since 1996 for marine fish farming

Ex: National plans of aquaculture development in the E-U (2014-2020)

	Current situation	Objective	Increase	Marine fish farming
Spain	267000	320 000	20%	32%
France	218 000	265 000	20%	233%
Italy	140879	206854	32%	58%
Greece	114000 (2012)	170000	49%	

<https://ec.europa.eu>

In France: no new creation of marine fish farming sites from 1996. Objective of development plan through regional development schemes: triple marine fish farming production to reach 20,000 t (2014-2020). Reality: from 4,400 t in 2012 to 4,000 t in 2017...

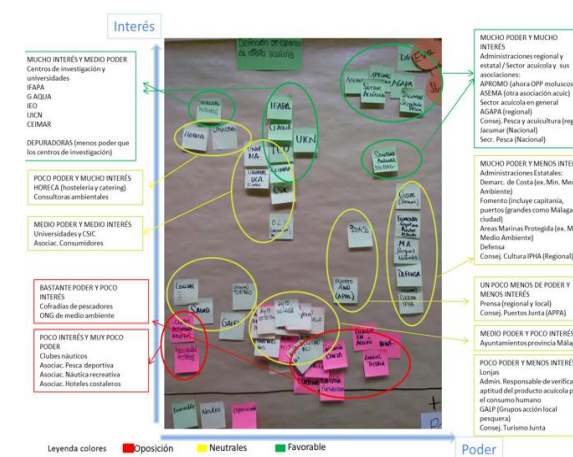
Needs to reverse the way of thinking aquaculture development.

Main issues associated to aquaculture development

- Economic, environmental and **social** issues
- **Social issues:** intensification of uses + Social Acceptability of Aquaculture Development. Increase of public opposition to public decisions → governance



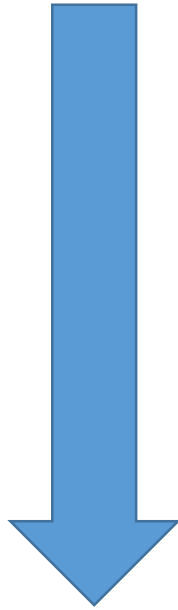
How improve the SA (necessary work with stakeholders)?



- The Social Acceptability addresses the complexity of governance of the social-ecological systems
- SA ≠ binary question (support or against) ⇒ Scenarios of development to be co-constructed with stakeholders
 - ✓ To understand the social bottlenecks and factors of social opposition
 - ✓ To accompany the social dialogue ⇒ exploring the social consensus

But the lack of institutional frameworks allowing stakeholders to be correctly involved in the governance processes is one of the main challenge.

Social dimensions are addressed in different management frameworks

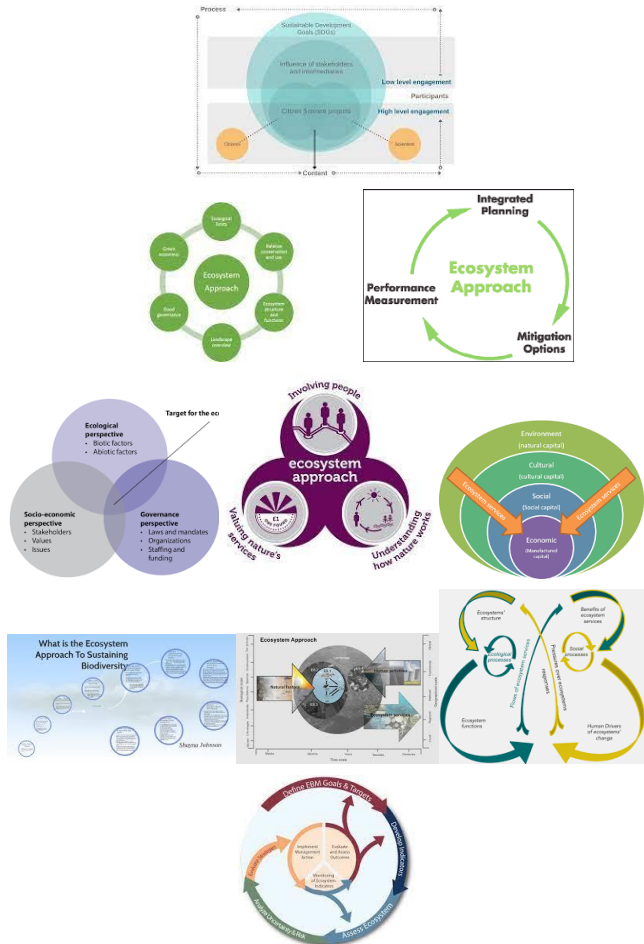


- ✓ Sustainability (ecological, economic and social components)
- ✓ Integrated Coastal Zone Management (ICZM)
- ✓ Ecosystem Approach (EA)
- ✓ Maritime Spatial Planning
- ...
- Social acceptability (framework, tool, process, ?)

Underlining the mismanagement between processes and tools and as a consequence concepts succeed to concepts

(Some of the) Ecosystem (Based) Approaches at the date of 2009...

Concepts evolution according to discipline and weight allocated to human dimension or ecological dimension (human well being vs. ecological well being). More balanced in System Approach.



- Ecosystem approach to fisheries (EAF)
- Ecosystem approach to aquaculture (EAA)
- Ecosystem-based fisheries management (EBFM)
- Ecosystem-based aquaculture management (EBAM)
- Sustainable livelihoods approach (SLA)
- Wealth-based fisheries management (WBFM)
- Integrated coastal management (ICM)
- Integrated coastal resource management (ICRM)
- Integrated coastal area management (ICAM)
- Integrated catchment management (ICM)
- Coastal zone management (CZM), and
- Integrated coastal zone management (ICZM)
- Next? Social Acceptability, NbS...

- **Some keywords** : Holistic, Participatory, multi-objectives (ecologic-economic-social), Multi-scale, Multi-sector, integration,...
- Main challenges:
 - Consolidating the sustainable development of social and ecological systems
 - The Ecosystem Approach provides a framework that promotes the integration of the ecological, economic and social dimensions in policy making (Soto et al, 2007)
 - Integration of policy frameworks (IMP, Blue Growth Strategy, MSP, PCP, MSFD,...)



But how social dimensions are addressed in practice ?

- After the stabilization of the concepts, guidelines and tools have been developed in more recent years, but the operational implementation of an EA (and ICZM) remains a key issue;
- Concepts regarding both integrated and ecosystem-based management are often too broad, too abstract and too complex for resource managers to enable effective implementation
- A feasible method for translating this attractive concept into operational management practice has not emerged to date (e.g. Arkema, 2006; Young, 2010).
- MSP emerged as a more practical tool for achieving EA (Douvere, 2008)
- “The emphasis on SPATIAL PLANNING that has developed as part of the EAA implementation efforts, and close links between the EAA and initiatives such as Blue Growth, constitute significant opportunities for the future of the approach, although its ability to tackle increasingly complex governance issues maybe limited” (Brugère, 2018)

Works in the context of the MSP are highly critics with the efficiency of this policy framework and the involvement of stakeholders in the management processes

(e.g.: Flannery et al., 2012; de Vivero et al. 2012; Kyriazi et al.,2013; Jones et al, 2016)

- ✓ Bad understanding of how to proceed
- ✓ Lack of integration in planning
- ✓ Prevalence of top-down processes (consultation rather than true negotiation)
- ✓ Dominance of objectives based on the development of the maritime economy geopolitical factors. The Blue Growth strategy becomes the main objective, taking into account some environmental constraints and generally neglecting social dimensions

Stakeholder's involvement remains a key issue

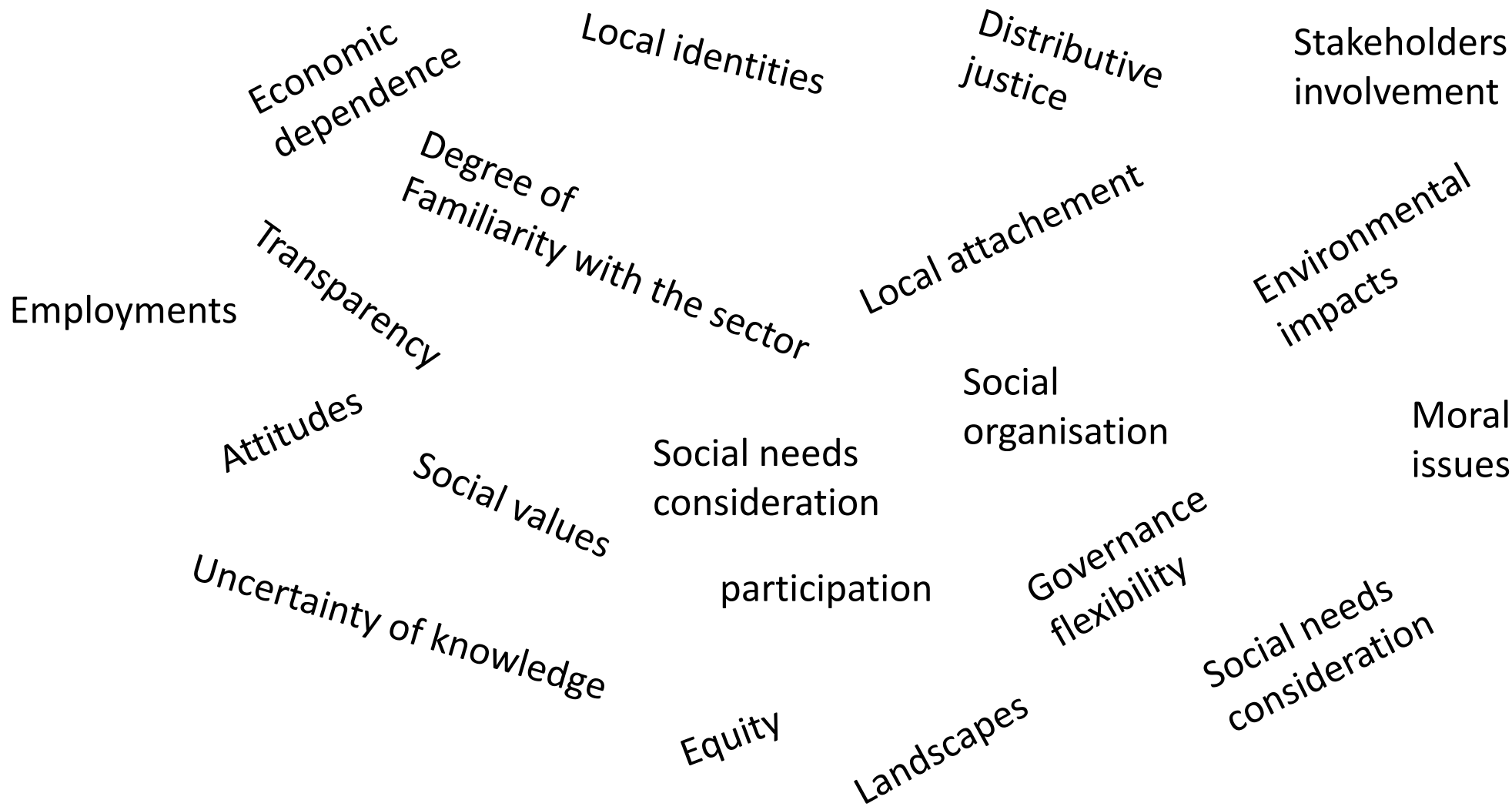


Social acceptability (NEW GRAAL ?)

Challenges associated to Social Acceptability

- ✓ Large and abstract concept that encompasses different dimensions
 - To make policies/projects acceptable
 - Acceptability of the sector, of the aquaculture products
 - ... sometimes linked to the behaviour of the actors ... notion of responsibility
 - Distortion of perception related to poor communication
- ✓ But within the SA there are factors of different dimensions:
 - Ecological (pollution, change in landscapes, etc.)
 - Economic (economic impact to local territories)
 - Social (rent distribution attached to the use of collective resources, quality of employment...)

Relevant factors of the social acceptability



**Diversity / Elements + or – shared
(level of collective consciousness)**

**Ability to integrate and address
conflictual dimensions**

- ✓ Robustness of Policy actions is higher when they are supported and legitimized by social groups that have a certain critical mass and relays in other social groups
- ✓ The implementation of programs, plans and projects always fit into a local context that can not be neglected
- ✓ In Europe, it is currently a fundamental expectation of European citizens to be involved in the decision-making processes of projects that concern them.

Integration of local context, and legitimation with stakeholders



Analysis of local contexts, stakes and social issues

Integration of stakeholders and citizens at the right moment of decision-making processes (as far upstream as possible)

Sincerity of concerted action

Take the time of the social dialogue

The cost of not realizing projects because of their social unacceptability



Projects developed «ex nihilo» without insights on local integration (technical, of course, but also social)

Information campaigns dating from the thirties («it's good for you, do not worry, we take care of everything, it's our job»)

Processes of "technical administrative concertation» deployed when everything is already decided

Accelerate decision-making

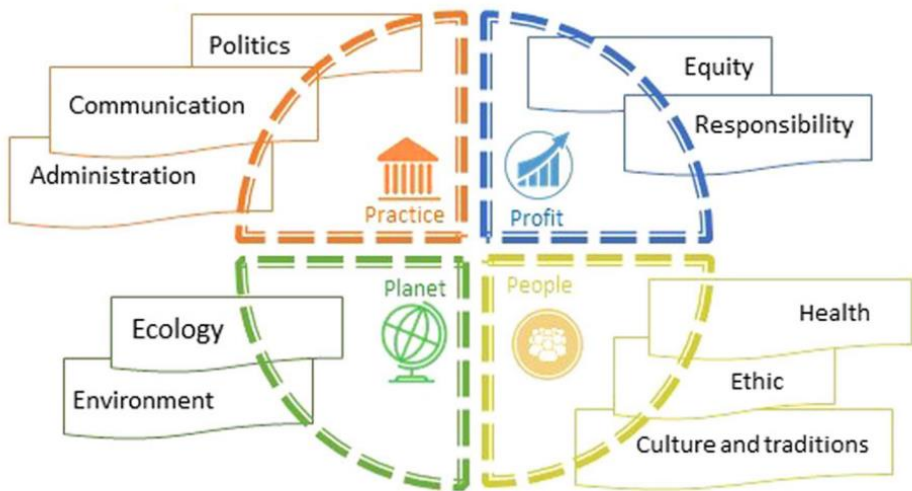
The cost of an accompanying approach to improve the legitimacy of the project

Factors influencing SA through integration of the local context and legitimation with stakeholders

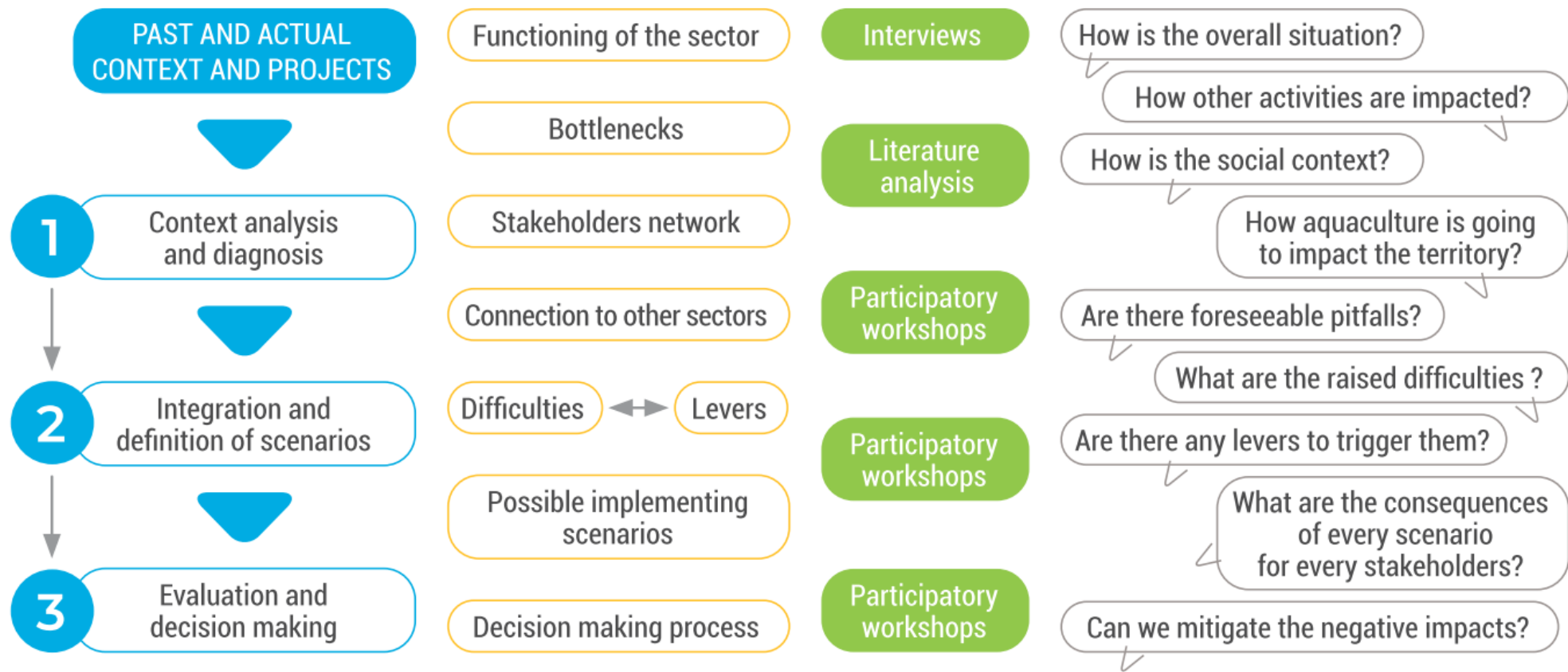
- Decision making currently based on technical and expert paradigms (historical context)
No "transfer of skills" between traditional territorial approaches (integration of stakeholders, territorial facilitation, long term consultation bodies, etc.) and proposed approaches for coastal areas more based on technical approaches driven by external objectives ("developing aquaculture at sea" => territorial demand ?)
- Gaps to manage the social acceptability by spatial planning
- In general, there is a well-developed legislation addressing the environmental impacts of the sector, including ecological and chemical aspects, but few legislation specifically address the impact of aquaculture in the society, especially in the local communities
- Poor or inexistent indications on how institutions and producers should address social aspects related to the transparency, guidelines for stakeholders and society consultation, and thus it releases in the hand of local administration or promoter.

An analysis over the European literature (Cavallo et al., 2023) demonstrates a gap in literature investigating social aspects of aquaculture development. Moreover, social acceptability of aquaculture is usually assessed as part of consumer perception of environmental and health issues, but less about economic impact, or benefits for coastal communities. Studies of the effects on social values and institutional and political aspects, such as trust and transparency, are almost non-existent.

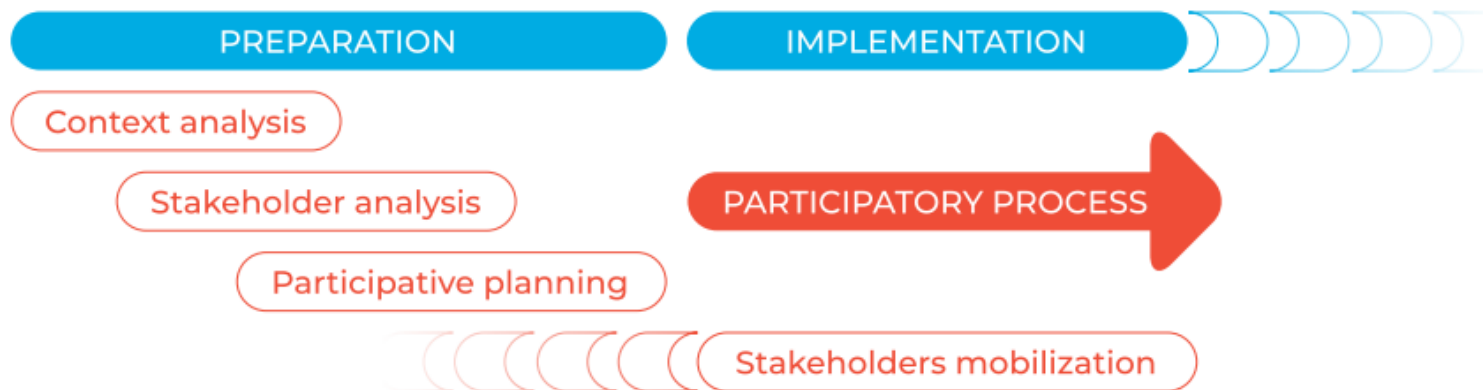
Some of the studies have tried to identify social attitudes toward aquaculture based on income, education level, gender, length of residency in the area, waterfront proximity and viewscape, and other measures of experience of the industry (see Mazur & Curtis, 2008). The contrasting results obtained by some suggest that making assumptions or predictions of people's behavior should be avoided (Alexander et al., 2016; Murray & D'Anna, 2015).



Classification of the 10 pillars of social acceptability of aquaculture into the four dimensions of sustainability



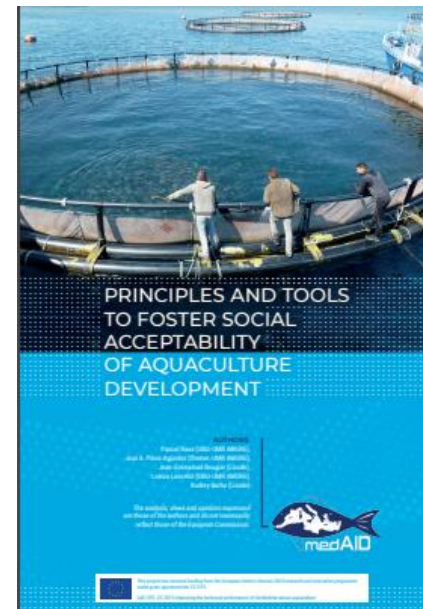
A 3 steps approach to assess Social Acceptability of Aquaculture Development



Four main recommendations to address sustainability of aquaculture developments through a Social Acceptability approach:

1. Support Concertation
2. Give importance to the adequacy between the territory and the project
3. Value the benefits of the project and promote transparency
4. Establish a framework that supports aquaculture development and compliance to development process

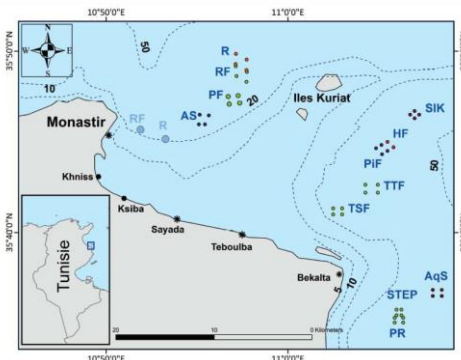
Principles and Tools to Foster Social Acceptability of Aquaculture Development



- ✓ Social Acceptability relies on the complexity of social-economic systems and their governance
- ✓ SA ≠ convincing ≠ communicating
- ✓ Communication is necessary but is not sufficient
- ✓ Aquaculture development requires properly addressing its objectives
(producing low cost proteins or providing good jobs and economic rents can be achieved in different ways... and this drives to different responses by the society)
- ✓ These objectives should be confronted to the social needs of coastal territories
- ✓ Key role of engagement and responsibility by companies to enhance the SA
- ✓ Necessity to promote **institutional innovation** (real stakeholder involvement and the need to better integrate social dimensions in sciences and policy frameworks)
- ✓ A better integration of sciences and society : multi-disciplinary expertise to accompany the construction of a common vision by trust, transparency and a true stakeholder's involvement in governance

Some experiences from field work

Participative assessment of SA of aquaculture development in the Bay of Monastir (Tunisia)



The approach

26 interviews + 3 participative workshops

Diagnostic of aquaculture development context in the Bay of Monastir (Context, issues and difficulties)

Focus on **difficulties** and identification on potential **action levers**.

Building aquaculture development scenario in the Bay of Monastir

Assessment of scenarios in the frame of social acceptability



Results

Different obstacles (export constraints, difficulties to settle on Marine Public Domain, etc.)

+

Conflicts over environmental issues and cohabitation with fishing activity.

Emerging issues are :

Impacts and mostly the way aquaculture development is thought.

Acceptability criteria pushed forward during workshops are :

- A better distribution of benefits
- More transparency and participation
- A more important regulation role from the State
- ...

Importance of **governance schemes** in support to projects implementation.

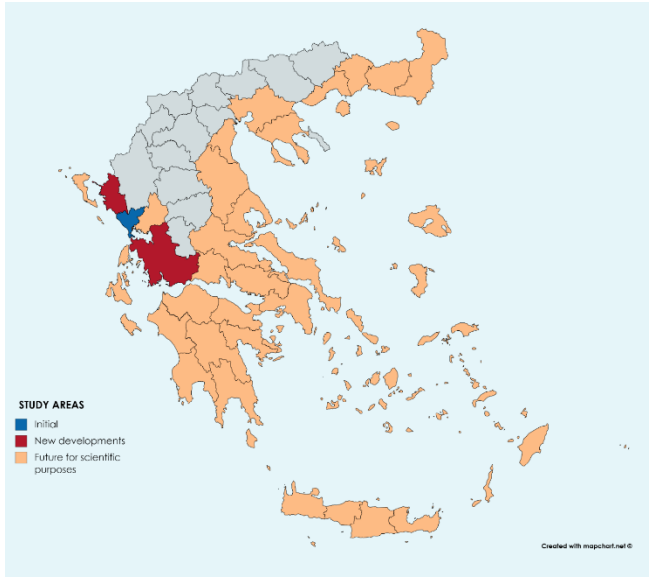
Participative assessment of SA of aquaculture development in Malaga (Andalusia, Spain)

- ✓ National plans of aquaculture development delegated at the regional scale (Andalusia)
- ✓ Process driven by the main political objectives: Plan to be built
- ✓ Timing of concertation in local territories is long vs short deadlines of administrative plans
- ✓ Process locked; lack of confidence and trust
- ✓ The global statement:
 - No sufficient considerations of social dimensions
 - **Need of integrating SA** for minimizing the risk of social reject of new projects at the end of the administrative process
 - Potential outcomes : **building indicators of SA by spatial areas** (polygons built in GIS which only include environmental information)

Map of the aquaculture sites in the province of Málaga



Assessment of SA of aquaculture development in Greece



- ✓ Aquaculture has been developed in a less constraining period, but under a strong social opposition
- ✓ Corporate – social responsibility is a key issue for the SA in many areas (socio cultural components but also socioeconomic context)
- ✓ Local institutions and social processes play a key role (Mayors)
- ✓ Today : new national law for aquaculture in Greece under construction: National objectives vs local realities
- ✓ The Greek case study shows how the success of aquaculture development cannot be achieved without properly addressing social issues