

The Galician *Barefoot Ecologists model*: *co-management of artisanal shellfisheries with local fishers*

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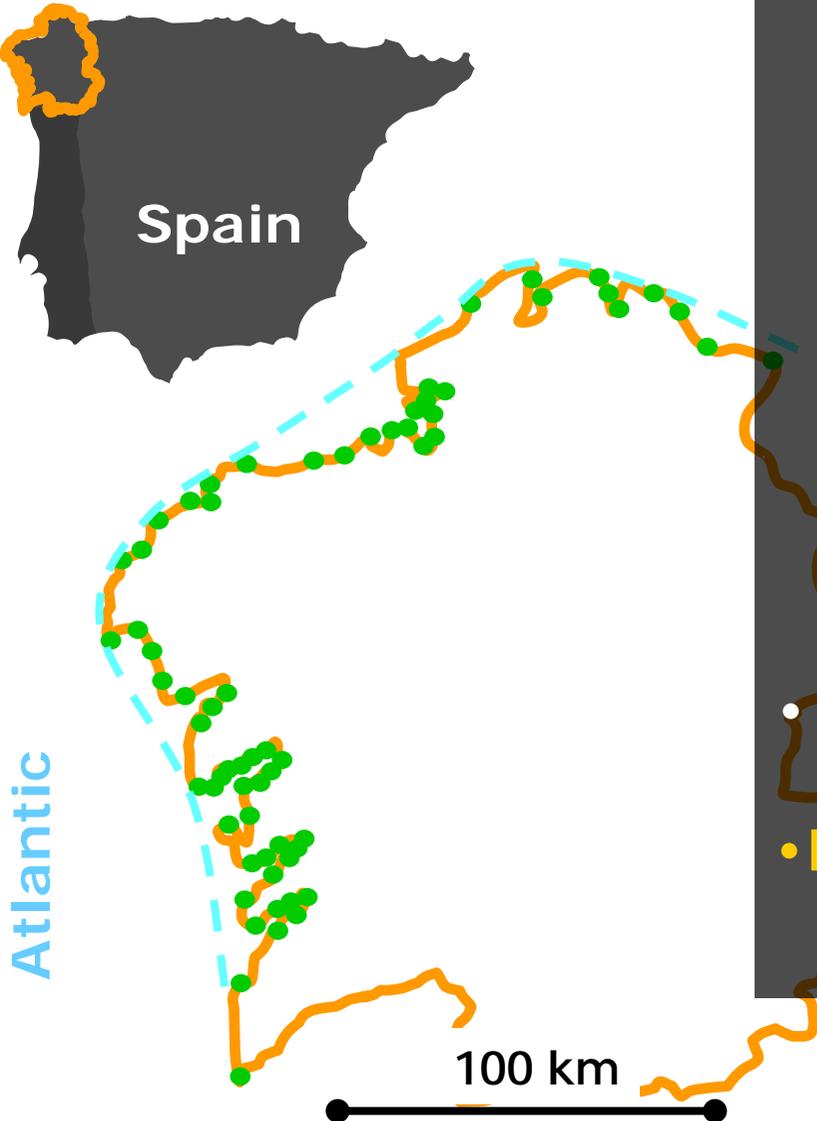


Galicia (NW Spain)



Relevance of the fishing activity in Galicia

Galicia



- 1,200 km of coastline

The rias (estuary upwelling system)

- Galicia / Spain fisheries sector:
 - ~43% of the vessels
 - ~40% of the jobs.

- Artisanal coastal fisheries:
 - ~87% (4,840 boats) of the boats
 - ~75% (~15,000) of the fishers

- 62 fisher's guilds "Cofradías" (1 every 20 km)
 - ~60 auction markets (1 every 20 km)
- Marketing ~220 species of fishes and shellfish

Instituto Galego de Estatística & Consellería do Mar 2013

What does *S-fisheries* means?

S-fisheries sensu Lobo Orensanz et al. (2005)

- **Small Scale**
- **Sedentary resources**
- **Spatially Structured Metapop.**

S-fisheries in Galicia targeting ~45 species

- **Bivalves (23):** clams, cockle, oyster, scallops,...
- **Crustacean (1):** gooseneck barnacle
- **Equinoderms (1):** sea urchin
- **Gastropods (4):** limpet, periwinkles, bucinum
- **Annelids (4):** lugworm, ragworm,...
- **Anemones (1)**
- **Algae (11)**



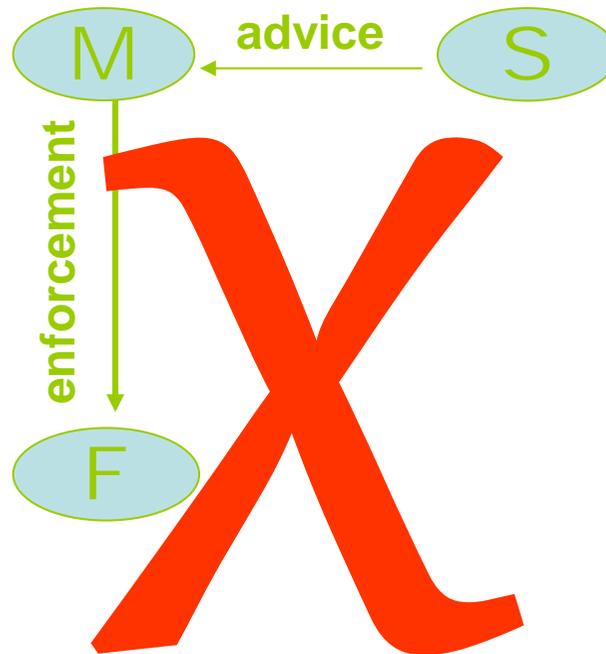
S-fisheries



Managed under
Territorial User Rights for Fishing (TURF)
granted to the local community

Problem for managing artisanal S-fisheries with a Classical top-down approach

Global stock assessment → TAC (Total Allowable Catch) → Enforcement



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1. Multiplicity of micro-stocks - Tyranny of scale

→ MISMATCH between the scale of the management, the data collection and the biology of the stocks

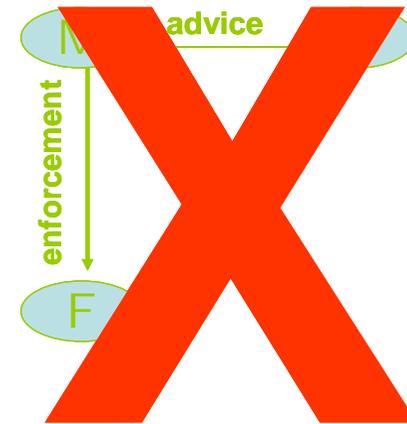
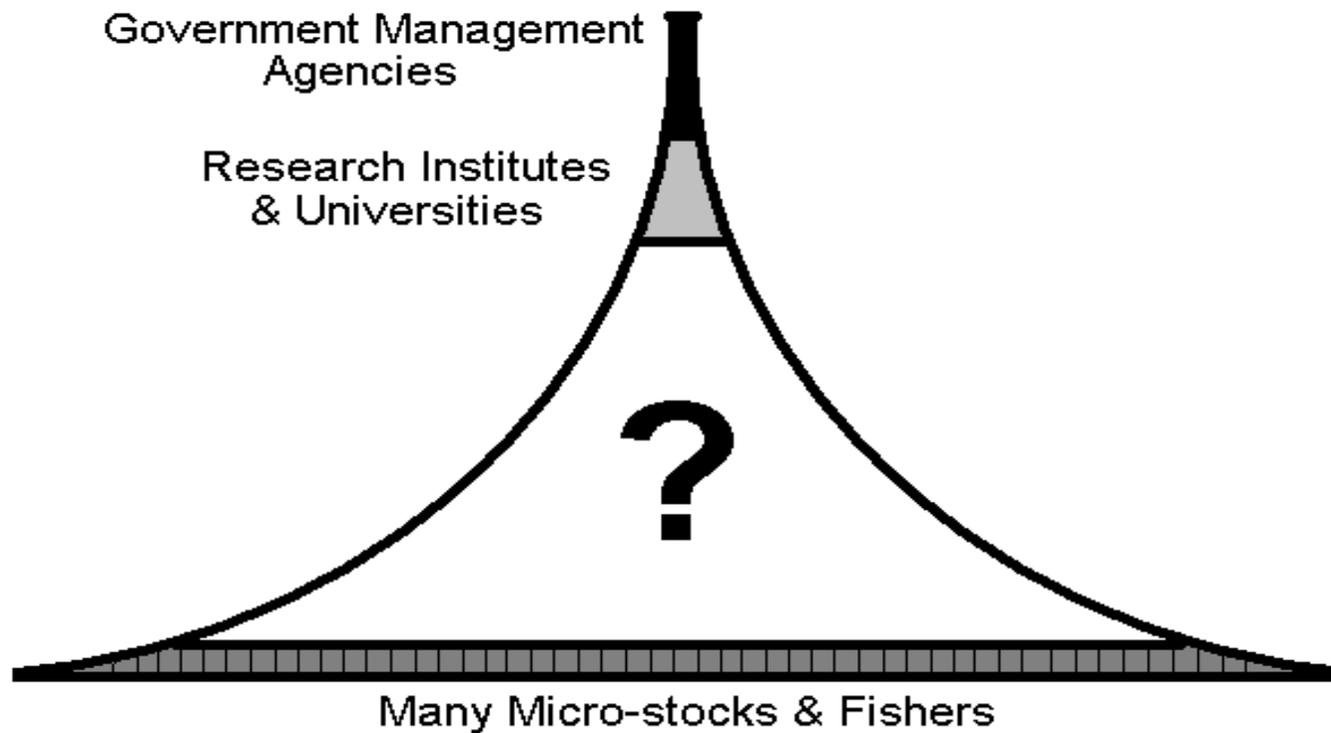
2. Multiplicity of fishing communities and landing points

3. Stock assessment and big modeling are too expensive.

4. Top-down enforcement is expensive and ineffective (fishers' compliance is low)

→ MISMATCH between the cost of the advice & enforcement & the economic capacity of the S-Fisheries

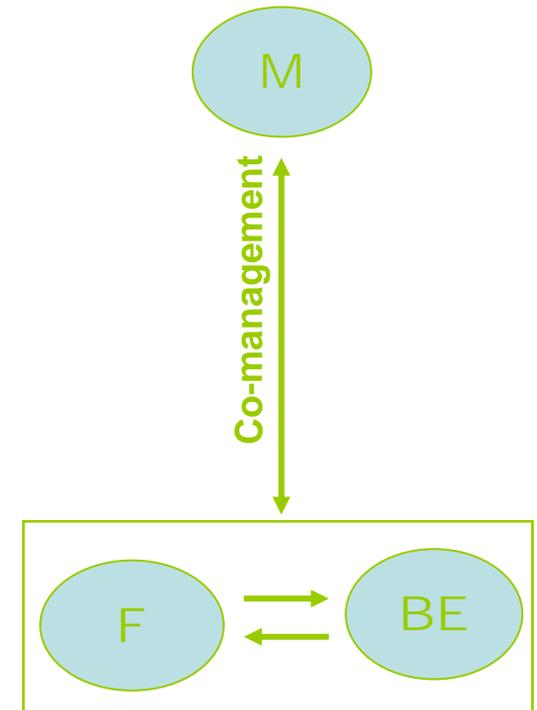
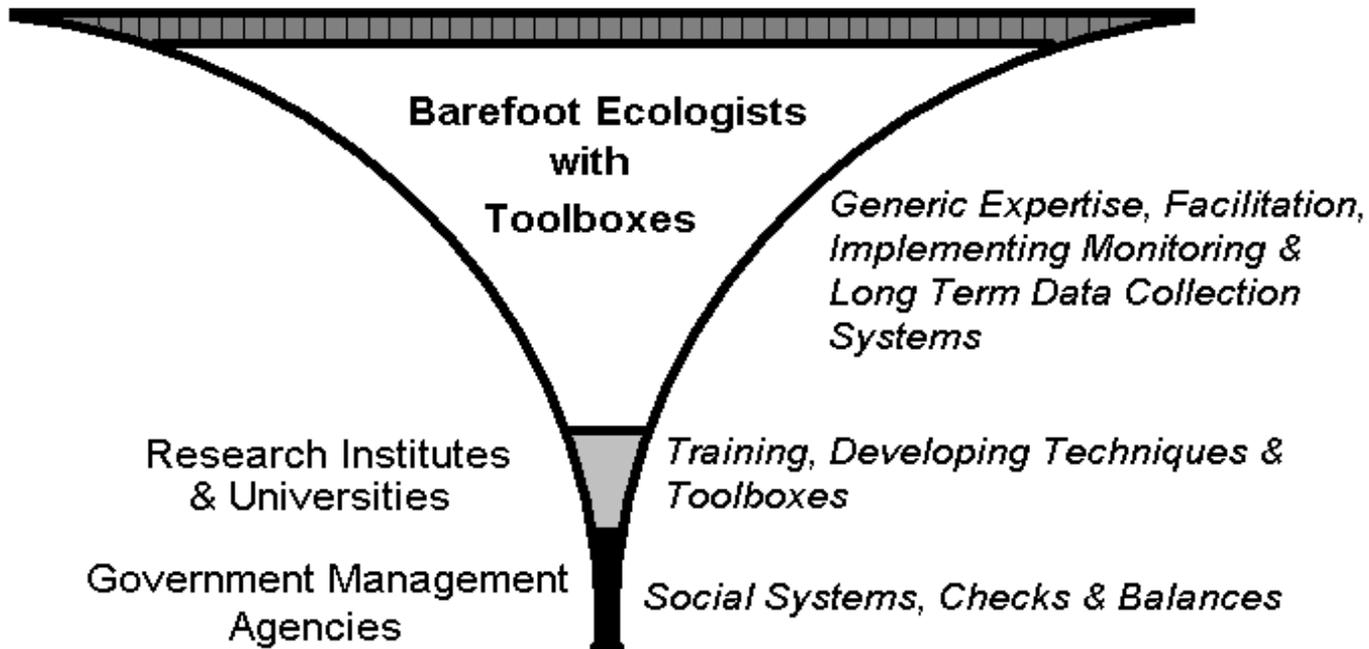
The Problem



Solution: Barefoot Ecologists ?

The Solution ?

Many Micro-stocks & Fishers - *Local Experts & Scientific Fishing*



The Technical Assistants (Barefoot Ecologists - name taken from Prince 2003)

- Biology/Marine Science graduates or Aquaculture Technicians who works as a S-fisheries management assistant
- **Not mandatory program but promoted and financially supported (~1 million € in 2008) by Galician Government (plan started in middle 1990s)**
- Hired by Cofradías → works for/committed with the Cofradía, not for the government
- **They are inserted in the fisher's community on a daily basis**
- Linking fishers with managers and scientists (Building trust & Translating Knowledge) and with other local/regional Administration bodies (Councils, Coastal Authority, Galician Sea Port Authority, ...)
- **Main Role: Provide technical support for managing the S-fisheries**
- They have natural sciences skills but not trained in social sciences skills

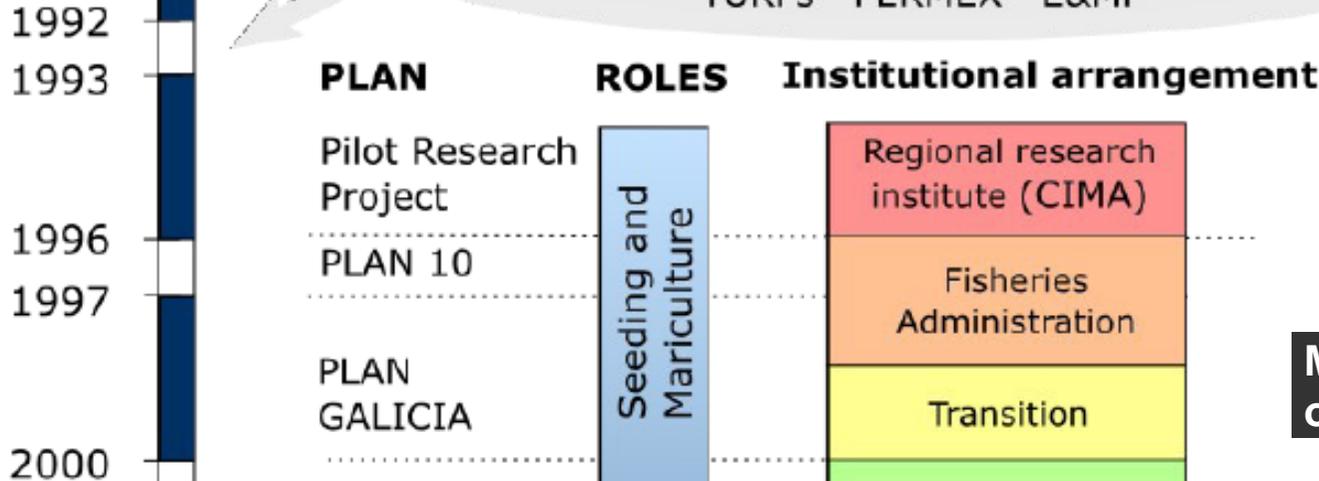
Brief History of the ATs

OPEN ACCESS

New Galician Fisheries Act:
Co-management introduced for S-Fisheries
TURFs PERMEX E&MP

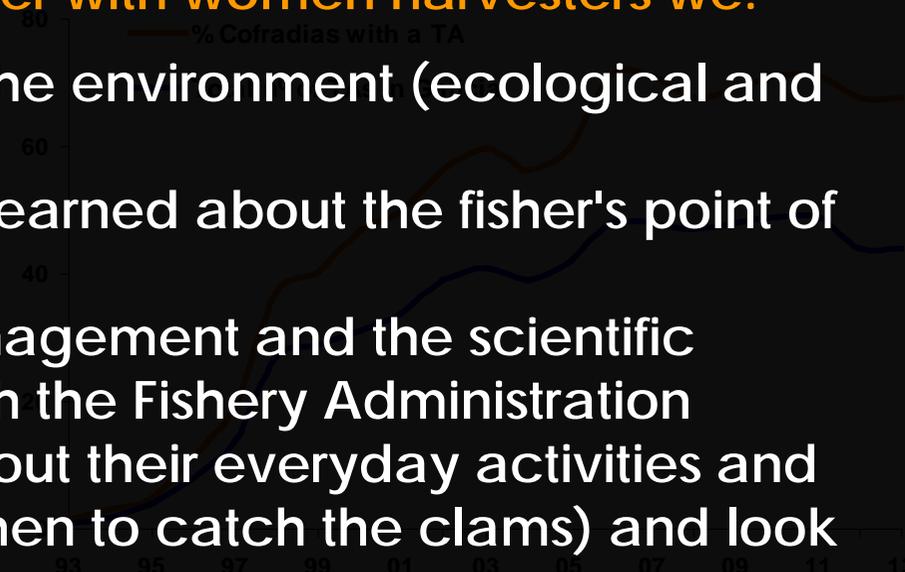


Mariculture techniques and empowering of women harvesters associations



Mariculture failed but ... "As we worked together with women harvesters we:

- Observed the traditional management and the environment (ecological and social)
 - We shared activities and difficulties and learned about the fisher's point of view.
 - We tied a knot linking the traditional management and the scientific knowledge, and also linking the fishers with the Fishery Administration
 - We realized women were able to talk about their everyday activities and make decisions (where, what, how and when to catch the clams) and look after the natural populations"

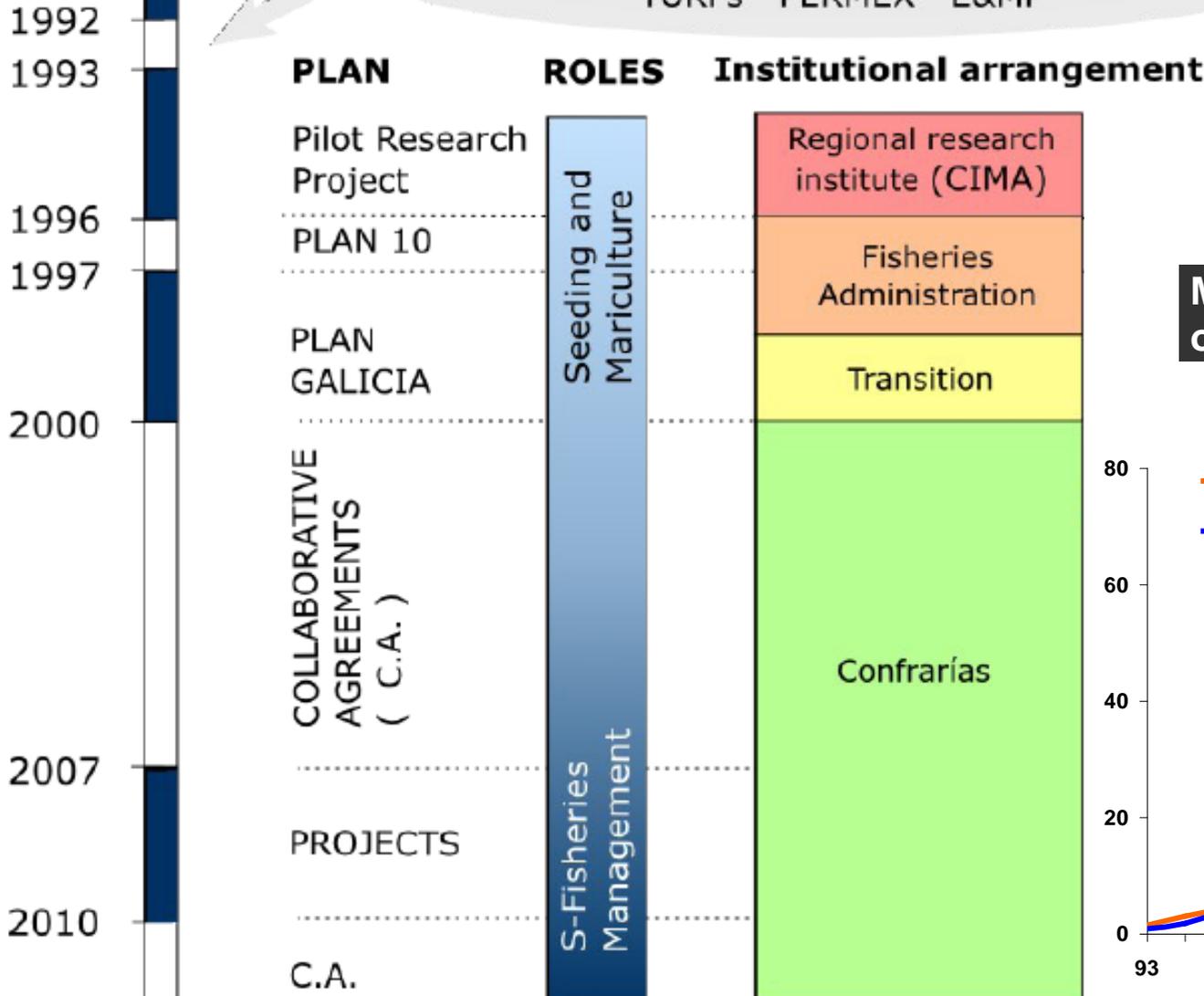


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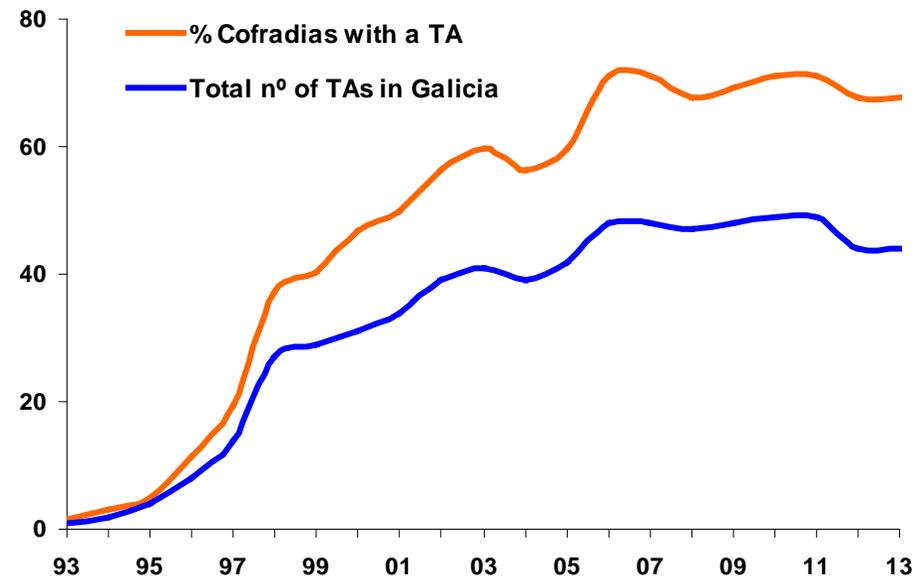


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Mariculture techniques and empowering of women harvesters associations



Galician TAs Roles & Duties

- **Monitoring of the Fishery (in charge of the Exploitation Plan)**

- Collect fishery information (catch, effort, landing size composition,...)
- Collect local knowledge
- Sampling survey (abundance, size structure,...)
- Database management
- Resource assessment (direct and indirect)
- Economic indicators (sales prices, fisher's earnings,...)
- Supply samples for sanitary monitoring (reed tides, pollution,...)
- Stock enhancement initiatives (seeding, predators-algae removal,...)

This is what the
Fisheries Administration
wants from the TAs

- **Help fishers organize themselves**

- Organize meetings (facilitator)
- Stimulate fishers' participation and catalyze processes
- Collect fishers' opinion
- Show the information to fishers
- Back fishers at meetings with the Administration

Galician TAs Roles & Duties (cont.)

- **Assistance in co-management_Translator**

- Build social capital promoting learning communities which involve fishers, managers, scientists and other stakeholders
- Support in decision making and formulation of management plans
- Help to organize surveillance service (but not do it!!!!)
- Involved in the daily management decisions

- **Assistance with marketing & certifications**

- Water quality, sanitary, and sustainability
- Marketing strategies for improving sales prices

- **Promotion of special projects (seek external support, partners, funding...)**

- Social empowering (capacity building,..), Socioeconomic studies, Stock assessment and state of the fishery analysis, Stock enhancing techniques, Marketing strategies and fish products (processing), Environmental issues (fishery residues, pollution, energy saving,...)

After almost 20 years running: Achievements and Needs

• Achievements

- TAs has become a trustful reference and respected person for stakeholders
- Creates trustful environments for building social capital (fishers, managers, scientists)
- Facilitates & Support decision making process
- Provides good quality (spatially and temporally) data, and not only landings and sales, but “in situ” catch data (based on the local surveillance guards).
- It has brought science to artisanal fisheries and vice versa

• Needs / Uncertainties / Future perspectives

- A sense of not moving situation has been established → It is necessary to “think about” the future TA model
- Weak support from Administration/Researching (Toolbox!!)
- What are exactly the TAs task?
- What do we need to know or to learn for those tasks
- Coordination with other TAs and Administration
- Administration takes final decisions → fishers exempted from responsibility
- Still a lack of trust between different stakeholders

Final thoughts

- **To be accepted by the fishers is a must to generate confidence and respect, both personally and professionally, based on:**

- Daily contact
- Seriousness: constant and well grounded line when making proposals
- Actively support and defend the fishers
- Make proposals fishers find interesting
- Assist in solving small problems

- **How do TAs work?**

- Being patient and calm
- Adapting to the circumstances of each Fishers' Guild
- Repeating concepts over and over
- Allowing time for changes of mentality to happen
- Looking for points of agreement
- Establishing a way of working

...With more patience and calm



Thanks to all Galician Technical Assistants, Cofradía of Bueu, Jeremy Prince, Ana Parma and Lobo Orensanz for sharing their ideas and for making me value and encourage to spread the word about the Galician model.

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