Small-scale, low-environmental-impact fisheries with high social value to address the ecosocial challenges of the food system

This Policy Brief sets out recommendations to guide fisheries and food policies towards a scenario in which fisheries are not only environmentally sustainable, but also socially just and resilient in the face of increasing climate uncertainty. It calls for a fisheries governance model that consistently integrates public health objectives, quality employment creation and retention, ecological sustainability, and social equity.

The proposals have been developed by Alimentta, a think tank for food transition, in collaboration with a range of stakeholders from the marine and fisheries sectors, and are structured around four key measures:

1. **Adopt a multisectoral, inclusive, and transparent co-governance framework for fisheries management**
2. **Promote low-impact fishing practices co-designed with the fisheries and marine sector**
3. **Strengthen short supply chains and support the relocalisation of the food system**
4. **Reinforce food stewardship and ensure effective regulatory compliance**

Nutritional, cultural, and social contributions of fisheries

Fisheries play a fundamental role in ensuring healthy diets[1,2] and are a key component of the transition towards more sustainable food systems[3]. They have historically constituted a cornerstone of both Mediterranean and Atlantic diets, widely recognised as benchmarks of nutritional balance. Alongside plant-based proteins, particularly locally produced organic legumes, and products from extensive livestock farming, fish is a strategic element of the protein transition currently being advanced at both European and national levels.

Aquatic foods provide high-quality proteins, omega-3 fatty acids, and essential micronutrients with well-documented preventive effects against cardiovascular diseases[2,4–6]. When harvested under appropriate management frameworks[7], they can also exhibit a lower ecological footprint and, in many cases, generate lower greenhouse gas emissions than other animal protein sources[3]. Beyond their nutritional value, territorially embedded fishing activities represent a socioeconomically significant common good along the Spanish coastline[I7], sustained by knowledge systems and ways of life that have shaped local identities and social fabric[8]. Operating within ecological limits, small-scale fisheries enhance community resilience to climate change and other pressures through locally adapted practices and knowledge that should be recognised and meaningfully integrated into decision-making processes[9,10].

GOOD PRACTICE

The Vía Sabia project, implemented by Alimentta with the support of the Biodiversity Foundation, documented and systematised practices and knowledge drawn from traditional or local ecological knowledge relevant to climate change adaptation. The initiative focused on fishing communities in Andalusia, Catalonia, the Balearic Islands, and Galicia. Through a participatory approach involving local stakeholders, the project translated this knowledge into practical recommendations to support the integration of traditional ecological knowledge into strategies and actions addressing climate-related challenges in fisheries and agricultural systems.

Fish consumption and trade trends in Spain

Within the European Union, Spain ranks as the second-highest consumer of seafood per capita basis (44 kg/year), second only to Portugal and well above the EU average[11]. At the global level, it also stands among the countries with the highest levels of fish consumption. However, data from the Ministry of Agriculture, Fisheries and Food show that consumption patterns have changed markedly over recent decades. There has been a growing shift towards frozen and processed fish products, at the expense of fresh fish, together with an increasing reliance on imported raw materials. These trends entail additional logistical requirements and environmental impacts[12].

At the same time, the Spanish fish and seafood system is strongly export-oriented, combining domestically landed catches with large volumes of imported products that are subsequently re-exported. This configuration reinforces external dependency and increases transport-related environmental footprints[13]. Spain plays a central role in international trade in marine food products -including sharks and rays, tuna, hake, and cephalopods- acting as both a major importer and a redistribution hub[14–16]. Together, these dynamics highlight a strong reliance on long supply chains and point to the need for robust traceability systems and effective verification of species origin. They also underscore the importance of strengthening resilience measures, such as supplier diversification and the promotion of locally sourced products, as well as reinforcing controls against illegal, unreported, and unregulated fishing throughout the value chain, in line with European commitments and best conservation practices.

CURRENT STATE OF SPAIN'S MARINE FOOD SYSTEM (2019)

MARINE CATCHES
877.212 tonnes

8.884 **vessels**

- **National fishing grounds**
  96,4 % — 363.503 t
  - **Industrial fishing**
    48 % — 337.187 t
  - **Small-scale fishing**
    52 % — 26.316 t
- **EU waters**
  1,2 % — 48.787 t
- **International waters**
  2,9 % — 464.922 t

Black-box (discards, illegal activities, recreational fishing, and joint enterprise catches)
990.000 t — 1.398.000 t

INTERNATIONAL TRADE
2.854.420 tonnes

UE exports
1.108.360 t

Global imports
1.746.060 t

AQUACULTURE
308.033 tonnes

Mussels
228.195 t

Fishes
77.069 t

Others
2.769 t

FOOD MANUFACTORY INDUSTRY
766.981 tonnes

DOMESTIC CONSUMPTION IN SPAIN
1.163.77 tonnes

The puzzle of seafood in Spain

It is within our collective responsibility to decide which fisheries and food model we choose to promote: whether to continue along a path dependent on long supply chains, favouring delocalised and intensive practices, or to consolidate a model that strengthens self-sufficiency, respects ecosystem regeneration limits, and supports regional economies.

Transforming Spain's seafood food system is possible

Significant inequalities persist in access to support schemes and financing across different fishing models, alongside concentrations of power at specific stages of the value chain, the continued prevalence of intensive extractive practices, unfair competition in prices and markets, and a lack of generational renewal -particularly within small-scale and artisanal fisheries.

There is an urgent need to redefine the fisheries system based on principles of equity, sustainability, and care - both for marine ecosystems and for the people who depend on them - by taking a comprehensive approach to the entire value chain. This includes fair access to fishing opportunities and decent working conditions, without discrimination based on gender or origin, as well as first sale, distribution, and consumption[17].

WHAT DO WE MEAN BY SUSTAINABLE FISHERIES?

Sustainable fisheries are fishing activities that operate within the ecological limits of marine ecosystems, ensuring the regeneration of exploited stocks, the conservation of biodiversity, and the functional integrity of habitats, while also guaranteeing fair and decent conditions for the communities that depend on these resources. They are grounded in an ecosystem-based management approach, the precautionary principle, and the integration of scientific knowledge with traditional knowledge, prioritising selective fishing gear and territorial proximity[18].

Practices that, despite being presented as "sustainable", rely on intensive fossil fuel use, generate negative impacts on ecosystems and species, are based on overexploitation or unequal accumulation of rents, or undermine the socio-economic and cultural ties of coastal communities fall outside this definition. Nor can fisheries be considered sustainable when they are legitimised solely by profitability or by the formal compliance with quotas, if they fail to uphold principles of equity, environmental justice, and food sovereignty[19].

Effectively incorporating social, economic, and environmental sustainability criteria is essential to address these inequalities and strengthen the resilience of the fisheries system. On this basis, the desired pathway rests on three mutually reinforcing principles.

— First, **proximity**, to prioritise local species, strengthen local economies, and reduce pressures on distant fisheries.

— Second, **low environmental impact**, through the use of selective fishing gear and effective management practices that prevent the capture of juveniles and threatened species, reduce discards, and minimise impacts on marine habitats.

— Third, **high social impact**, by ensuring fair remuneration and decent working conditions, promoting the inclusion of women, young people, and migrants, and securing balanced prices for both producers and consumers.

This approach is not only necessary but also feasible. As evidenced by a report by Alimentta[13], transforming Spain's food system by reducing fishing activities in third-country fishing grounds by 56% - primarily those associated with the most industrialised fleets - and by relocalising the food system towards domestic supply could, by 2050, ensure a healthy supply of marine products. This scenario would meet the requirements of reference diets while reducing current greenhouse gas emissions by 85%[20]. Achieving this transformation will require changes to the legislative framework.

The transition towards a new food system paradigm can no longer be postponed

The current context of political and economic instability calls for an urgent shift in the food system paradigm, a need that is also reflected in legislative and financial instruments at both national and European levels. In recent years, measures such as Spain's new Sustainable Fisheries and Fisheries Research Act (Law 5/2023) have entered into force, establishing regulatory frameworks aimed at minimising the overexploitation of marine resources. Similarly, the State Pact for the Climate Emergency highlights the need to adopt low-emission productive and extractive practices that are adapted to the impacts of climate change, in dialogue with primary sector organisations.

At the same time, growing concern about the population's increasing distance from healthy diets and lifestyles[19] has been reflected in policy instruments such as the National Food Strategy launched in 2024 by the Ministry of Agriculture, Fisheries and Food (MAPA), as well as the School Canteens Royal Decree (315/2025). These initiatives reaffirm the Mediterranean and Atlantic diets as models of health and sustainability and emphasise the role of fish within them. However, rather than promoting indiscriminate increases in consumption, efforts should be directed towards sustainable and locally sourced products that complement plant-based proteins, ensure minimum access to fresh fish for all population groups, and enhance the value of underutilised yet abundant species along Spain's coastline. Achieving this requires responsible public procurement, transparent labelling, and the prioritisation of proximity criteria in the allocation of quotas, licences, and financing[20].

Measures to strengthen small-scale, low-environmental-impact fisheries with high social value

The following four areas for action outline the transition from diagnosis to implementation. These measures operationalise the principles and definition set out above and prioritise actions that are verifiable in the short and medium term.

1 Adopt a multisectoral, inclusive, and transparent co-governance model for fisheries management

Local knowledge held by fishers and shellfish harvesters continues to be undervalued in policy formulation, with consultation processes that are often sporadic and insufficiently representative. This exclusion generates discontent within the sector, which perceives certain regulations as being "imposed from the outside", outdated, punitive, and disconnected from the realities and ongoing changes in the marine environment.

As a first step, local and traditional knowledge must be recognised as valid evidence and systematically incorporated into research and public policy processes[21]. Fisheries management should be regionalised in order to adapt to local ecological and socio-economic contexts, and should adopt an ecosystem-based approach that integrates fishing grounds, species, habitats, and communities[22,23]. Finally, participation must be multidirectional and effective, ensuring the meaningful inclusion of women, young people, and migrants; establishing clear roles and responsibilities; and delivering outcomes that are binding and subject to evaluation[24,25]. Achieving this requires improving the quality and accessibility of data on extractive activities, strengthening the representativeness of fisheries organisations, and enhancing coordination among stakeholders[26,27].

ACTIONS

- Integrate the primary sector into knowledge generation processes, through bidirectional communication channels and effective feedback mechanisms.
- Ensure cross-institutional coherence across fisheries, food, consumer affairs, social policy, ecological transition, and rural development, in order to avoid regulatory gaps or overlaps.
- Establish co-management committees by fishing ground and species, supported by independent scientific evidence.
- Identify and address regulatory shortcomings through participatory processes, and simplify and align national, European, and local frameworks.
- Set up regional intersectoral groups to provide regular input to fisheries management committees.
- Ensure balanced representation of fishers' guilds (*cofradías*), shellfish harvesters, fisheries organisations, women's and migrants' associations, SMEs, marketing and trading companies, consumers, and environmental NGOs within dialogue and consultation channels with public authorities.
- Implement gender equality programmes that guarantee representation in decision-making bodies, include work–life balance measures, and support generational renewal.

GOOD PRACTICE

Founded in 2014, **Soldecocos** (Society for the Development of Coastal Communities) works to strengthen sustainability and participatory governance in coastal areas of southern Spain and Morocco. The organisation supports the ecological transition of small-scale coastal fisheries and promotes cross-border cooperation in the Alboran Sea. In collaboration with WWF, GALPA Alborán, fisheries organisations, and women-of-the-sea associations, Soldecocos implements marine conservation and local development initiatives that contribute to enhanced resilience and greater social equity within fishing communities.

2 Promote low-environmental-impact fishing practices co-designed with the fisheries sector

In recent years, a range of measures have been introduced to improve fisheries sustainability and reduce environmental impacts. However, some of these measures entail costs that are difficult for certain fisheries segments to absorb and are perceived as being disconnected from sector realities. This has reinforced mistrust towards scientific–technical bodies and public authorities, perpetuating longstanding tensions with the environmental movement.

Co-designing solutions with fishing communities is therefore essential to ensure their uptake and long-term viability. Fishing practices should keep activity within ecological limits and carrying capacity, prioritising selective and non-destructive methods[7]. Productive diversification can also help improve economic viability, reduce discards, and support adaptation to climate change, provided it is accompanied by support for transition costs, access to public procurement, and consumer awareness-raising. Before being scaled up, any technology or practice should be assessed in terms of sustainability, accessibility, and economic viability, using simple and operational metrics[28] that enable agile decision-making.

ACTIONS

- Update outdated regulations (e.g. seasonal restrictions on fishing activities) based on the best available evidence on biological cycles and spatial distribution.
- Adapt regulations designed for industrial fisheries when they negatively affect small-scale operations.
- Assess standardised technologies in local contexts, incorporate nature-based solutions developed by fishing communities, and establish a mixed evaluation committee.
- Co-design, pilot, and refine low-impact, low-cost, high-performance innovations through co-creation and participatory action research with the fisheries sector.
- Ensure equitable access to technological improvements, including open-access public digital tools and financial instruments for vulnerable groups, while avoiding maladaptation.
- Integrate fisheries management frameworks with environmental and labour frameworks in order to advance ecosystem-based management.

GOOD PRACTICE

The **Calant Xarxes** network is an alliance established in 2023 by six organisations (Ibiza Preservation, Mallorca Preservation, Menorca Preservation, Marilles Foundation, Blue Marine Foundation, and Conservation Collective) that work jointly to improve the sustainability of fisheries in the Balearic Islands. Its main objective is to promote responsible sourcing of Balearic seafood that is local, traceable, and environmentally sustainable, thereby contributing to the reduction of illegal, unreported, and unregulated (IUU) fishing.

3 Strengthen short supply chains and advance the relocalisation of the food system

The emphasis on internationalisation has put the viability of small-scale and artisanal fisheries at risk, reducing local control over what is produced, how it is produced, and for whom, while weakening proximity markets and the capacity of territories to ensure self-sufficiency. As a result, this sector faces growing difficulties in remaining economically viable and accessing markets under fair conditions.

Promoting short food supply chains is therefore a strategic priority. This entails involving all actors along the value chain in planning, monitoring, and management mechanisms, and rethinking their organisation at a regional scale. Key actions include improving product traceability; enabling direct sales spaces to better connect supply and demand[23,28]; facilitating access to local products for small-scale processing enterprises[29]; diversifying and adding value to native species; and supporting these shifts through the hospitality sector and public procurement. In parallel, it is essential to foster culinary innovation that combines the recovery of traditional recipes with experimentation around locally abundant or underutilised species.

ACTIONS

- Promote the consumption of locally abundant and sustainable species to diversify diets and relieve pressure on overexploited stocks.
- Support production, processing, and distribution cooperatives, including fisheries logistics hubs, to improve logistics and market access.
- Strengthen community-based oversight of extraction, distribution, and resource management.
- Reduce processing costs through shared infrastructure, such as collective processing facilities, adapted fish markets, and community cold-storage facilities.
- Reinforce neighbourhood fishmongers and local markets specialising in locally sourced seafood, through targeted support for marketing, financing, and training.
- Reorient public procurement (schools, hospitals, and other institutions) towards locally sourced, sustainable, and seasonal products.
- Facilitate the integration of local seafood into hotels, restaurants, and catering services, and establish a label for establishments offering locally sourced, sustainable fisheries products.
- Include distribution and marketing actors in co-decision and governance spaces.

GOOD PRACTICE

The **Ecotúnidos** project promotes the consumption of locally sourced fish by connecting schools on the island of Tenerife with local fisheries organisations, with the aim of scaling this initiative to the wider society. The project began with eight schools and has since expanded to twelve, reaching more than 2,000 students.

4 Strengthen food stewardship and regulatory compliance

Illegal, unreported, and unregulated (IUU) fishing undermines both ecological and economic sustainability and exacerbates stigma towards the fisheries sector. Despite the existence of regulatory frameworks such as Law 3/2001, Regulation (EU) 1005/2008, and Royal Decree 345/2023, uneven implementation continues to limit transparency and equity across the value chain[30,31].

Strengthening enforcement is therefore a priority. This requires enhanced monitoring and surveillance, improved coordination among public authorities, the active involvement of the fisheries sector in control activities[32], and sustained awareness-raising efforts to foster shared social responsibility.

ACTIONS

- Strengthen coastal surveillance and enforcement through increased staffing and the deployment of technologies such as drones, sensors, and digital traceability tools, alongside improved coordination between regional and national authorities.
- Promote community-based monitoring through long-term user rights and co-management agreements.
- Improve traceability and transparency across the entire value chain, from capture to consumption, through open digital systems.
- Regulate and monitor recreational fishing by introducing mandatory registries, catch limits, electronic reporting, and awareness-raising campaigns.
- Combat poaching and illegal networks through enhanced cooperation among inspection services, coastguards, and local authorities.
- Foster shared responsibility through participatory certification schemes and self-regulation by the professional sector and its associations.
- Conduct awareness-raising campaigns to highlight the impacts of illegal fishing and to enhance the social value of small-scale and sustainable fisheries.

GOOD PRACTICE

A **study** documents how groups of women shellfish harvesters (mariscadoras a pie) in Galicia, organised within fishers' guilds, collectively manage shellfish beds based on principles of community governance. Through locally agreed rules, internal monitoring, and rotating surveillance shifts, these groups have succeeded in reducing illegal harvesting, strengthening social capital, and improving the ecological and economic sustainability of shellfishing. They have thus become a benchmark for participatory self-management of marine resources.

About Alimentta

Alimentta brings together experts from a range of disciplines that may appear distant at first glance, yet are highly complementary -such as agroecology, marine ecology, anthropology, political economy, health, and nutrition -allowing for a comprehensive approach to the entire food value chain. This diversity enables critical exchange of knowledge and adds a transversal, interdisciplinary perspective to the proposals we develop.

Through our work, we have identified a number of structural dysfunctions within Spain's food system, including a growing disconnect between what people consume and healthy and sustainable dietary patterns, with the Mediterranean diet serving as a key reference model.

At Alimentta, we generate rigorous knowledge and apply it to the design and improvement of food-related policies. To this end, we support social change processes and engage in public policy advocacy to promote the transition towards healthy, sustainable, and just food systems.

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