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PLAN BLEU
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ENVIRONMENTALLY
HARMFUL SUBSIDIES

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Fishing Subsidies and Their Impacts on Marine Ecosystem Health



Harmful Subsidies and the Mediterranean: Balancing Environmental Sustainability, Economy, and Equity

Addressing environmental harmful subsidies is of vital importance, as they not only contribute to ecological degradation and climate change but are also costly and hinder the transition towards sustainable development in the Mediterranean. Plan Bleu's work program aims to dissect harmful subsidies, provide evidence-based policy recommendations, and raise awareness among policymakers and stakeholders. Eight Policy Papers are currently supported by Plan Bleu and will be published later in 2024. Each paper will be succinctly presented in this series of 2-Pagers.

Key Takeaways

1. Plan Bleu has been examining the intricate relationship between fishing subsidies and their impact on marine ecosystems, with a focus on identifying harmful subsidies.
2. Fishing subsidies can be "capacity-enhancing", "beneficial" or "ambiguous" based on their impacts on marine ecosystems and ecological sustainability. Capacity-enhancing subsidies are the most detrimental, as they contribute to overcapacity and overfishing.
3. Focusing on Türkiye, Plan Bleu finds that capacity-enhancing subsidies, including fuel tax concessions and infrastructure support, have primarily supported industrial fishing, leading to increased vessel/fleet size and over-fishing but not to higher catch rates, despite increasing fishing effort.
4. Policy recommendations include the rationalization of subsidies, promotion of sustainable support mechanisms, implementation of eco-friendly fishing practices, support for small-scale fishing communities, and the establishment of oversight and evaluation mechanisms.

A Need to Uncover the Impacts of Fishing Subsidies in the Mediterranean

Fishing subsidies have gained attention due to their environmental impact, with around 60% considered harmful, leading to overfishing and overcapacity globally. Capacity-enhancing subsidies, such as fuel subsidies and tax exemptions, are particularly damaging to marine fishery resources. However, some subsidies, like those supporting fisheries management and marine protected areas, can

be beneficial. There is also an ambiguous category, where subsidies may have positive or negative effects depending on context. The majority of subsidies (80%) currently benefit industrial fishers, contributing to environmental degradation. In the Mediterranean, capacity-enhancing subsidies persist, contributing to overfishing and ecosystem degradation.

Methodology

Plan Bleu's analysis incorporates historical fishing subsidy and catch trends in Türkiye, ecological indicators for marine ecosystem health, and fishing effort assessed through GPS data for the recent decades. The goal is to bridge the gap between subsidies and changes in fishery status, shedding light on the socio-economic drivers behind fishing practices.

"Our study identifies capacity-enhancing subsidies as a key driver of overcapacity and overfishing in the case of Türkiye, which, in line with Mediterranean trends, disproportionately favor industrial over small-scale fisheries. This creates a stark 'growth spiral' in industrial fisheries leading to significant negative impacts on marine health and socio-economic sustainability. Despite the introduction of vessel buyback programmes, measures such as fuel tax concessions and infrastructure support have increased fishing effort, while catches have gradually declined. Hence, we underscore the need for a paradigm shift towards sustainable fishing practices by redirecting subsidies towards conservation, implementing catch quota systems, and enhancing technological integration for data transparency.", Nazlı Demirel, Author

Results: Subsidies Leading to Over-Capacity and the Need for More Sustainable Fisheries

The fisheries sector has played a vital role in Türkiye's local economy and culture, with historical government support dating back to the 1940s through subsidized credits, infrastructure investment, and tax exemptions. Subsidies eventually resulted in over-capacity, over-fishing, and stagnation of marine fishery in the 2000s. To address declining marine fish catches, Türkiye shifted focus to export-oriented marine aquaculture in 2003, with substantial subsidies supporting this sector. Additionally, industrial fishing activities expanded overseas to West and East Africa, facilitated by bilateral fishing agreements. The analysis of fishing subsidies from 2000-2020 reveals diverse support categories, including capacity-enhancing, beneficial, and ambiguous subsidies.

- Capacity-enhancing subsidies, like fuel tax concessions and infrastructure support, have comprised a substantial portion (53.7%) of total subsidies. These subsidies contributed to a "growth spiral" for industrial fisheries, leading to overfishing and overcapacity.
- Beneficial subsidies, aimed at conservation, constituted 43.2% of total subsidies, primarily used for monitoring and enforcement, with limited allocation for research.
- Ambiguous subsidies, with uncertain impacts, comprised 3.2%, including income support for small-scale fishers and vessel buy-back programs.

Over the past five decades in Türkiye, the catch composition has shifted, with small pelagic fish species dominating, and the mean trophic level of the catch exhibiting fluctuations, suggesting changes in fish populations or fishing practices. Analysis of fishing efforts and catch data reveals that increased effort has not been correlated positively with catch. Despite the fall in the number of fishing vessels through the buyback programme initiated by the central government in the 2010s, fishing effort has risen. These trends underscore the importance of reconsidering adaptive management and the environmentally harmful impacts of capacity-enhancing subsidies to ensure the sustainability of marine resources and the health of ocean ecosystems.

Türkiye's fisheries subsidies align with broader Mediterranean and EU trends, with a greater focus on capacity-enhancing support for industrial fisheries, disproportionately favoring them over small-scale coastal fisheries. The Mediterranean's socio-economic complexity and management challenges call for reform, with declining fish stocks emphasizing the need for a more comprehensive approach.

Recommendations: Towards a Comprehensive Policy Blueprint for Mediterranean Fisheries

Comprehensive policy recommendations are proposed to address the multifaceted nature of the problem and promote sustainable fisheries management. They include:

1. Incentivizing Responsible Fishing Practices and Evaluating the Impact of Subsidy Reforms:

- Shift focus from capacity-enhancing subsidies to subsidies that incentivize conservation and responsible fishing practices. This can contribute to reversing negative trends in fish stock levels and overall marine health.

- Implement catch quota systems for effective direct management and consider policies to reduce fishing effort., such as limitations based on "who does the fishing, when, where, and how."
- Encourage economic incentives for innovation in fishing gear technology and environmentally-friendly modifications to mitigate bycatch and habitat impact.
- Assess the long-term ecological and socio-economic impacts of subsidy reforms.
- Investigate the challenges in transitioning towards sustainable fishing subsidies during policy implementation.

2. Improving Data Availability and Transparency:

- Enhance data collection, analysis, and transparency in the fisheries sector.
- Monitor changes in fish stock levels, marine biodiversity, and the economic well-being of fishing communities in longitudinal studies following subsidy reforms.
- Utilize technologies like the Global Fishing Watch to monitor and enforce regulations, providing crucial datasets for regions inadequately monitored.
- Investigate the role of other emerging technologies, such as artificial intelligence, blockchain in enhancing transparency and efficiency in fisheries management.

3. Cross-Sectoral and Interdisciplinary Approaches for Supporting Sustainable Seafood:

- Broaden the definition of sustainable seafood to encompass the entire global value chain, emphasizing environmental, nutritional, and social impacts.
- Implement eco-certification schemes coupled with beneficial subsidies to guide fisheries toward sustainable methods.
- Encourage sustainable practices in aquaculture by reducing reliance on marine ingredients (e.g. fishmeal/fish oil production) and promoting research and innovation.

4. Comparative Studies across Different Geographies through Behavioral and Cultural Dimensions for Supporting Small-Scale Fishing Activities:

- Provide economic incentives and political support for small-scale, artisanal fishing communities, recognizing their significant role in local food security, employment, and rural development.
- Undertake comparative studies of subsidy reforms to understand their diverse impacts by examining the behavioral responses of fishers and fishing communities through cultural and social dynamics that influence fishing practices in varying ecological and socio-economic contexts in different Mediterranean countries.
- Implement subsidy reforms to allocate resources more efficiently, prioritizing small-scale fisheries over industrial activities.
- Promote alternative livelihoods, such as eco-tourism, artisanal small-scale aquaculture, and "pescaturism," to supplement fishing incomes without compromising local fishing identities and cultures.

*Full paper to be published later in 2024 on planbleu.org/publications
This two-pager is based on the findings of a forthcoming Plan Bleu Policy Paper titled "Fishing Subsidies and Their Impacts on Marine Ecosystem Health: The case of Türkiye", by Nazli Demirel, Pinar Ertör-Akyazi et Taner Yıldız.*