



SYSTEMS BASED FINANCING:

Sustainable Fishing
in Mexico

INDEX

1. Introduction	3
2. Current State of the Ecosystem	4
2.1. Ecosystem Overview	4
2.2. Value Chain and Relevant Stakeholders	6
3. Sustainability in Fishing	8
3.1. Sustainability Criteria in Fishing	8
3.2. Incentive Alignment for Sustainability	9
4. Ecosystem Challenges	11
4.1. Challenges in the Value Chain	12
4.1.1. Stage 1: Production (Fisheries)	12
4.1.2. Stages 2 and 3: Processing, distribution and sale (Intermediaries)	13
4.1.3. Stage 4: Consumption (Consumers)	13
4.2. Sectorial Challenges	13
4.3. Challenges in Access to Financing and Expansion	15
4.3.1. Resource Demand	15
General Ecosystem	16
4.3.2. Resource Offer	16
5. A Good Investment/Financing Match	18
5.1. Impact Investing: Investment Verticals and Business Models	19
5.2. Venture Philanthropy	22
5.2.1. Capacity Building and Technical Assistance	22
5.2.2. Research and Development (R&D)	24
6. Final Suggestions and Recommendations	26
Annexes	
Annex 1: Description of Value Chain Actors	29
Annex 2. Persons and Organizations Interviewed	31

» SYSTEMS-BASED FINANCING:

The Case of Sustainable Fishing in Mexico

1 Introduction

Sustainable fisheries in Mexico have become a focus of attention for diverse stakeholders who have identified both the need for intervention and the funding potential. More than three billion people worldwide depend on marine biodiversity for their livelihoods. Hence, the United Nations has declared the decade 2021-2030 as a key period for ocean science to promote sustainable development (Lopez-Ercilla et al., 2024).

From a systemic perspective, sustainable fishing is more than just fishing. From the challenges to be solved to the impact generated, it is a reality that fishing is an economic sector that influences different social levels, economic sectors, and communities. Therefore, the blue economy, including fisheries, impacts food security, livelihoods, and economic growth, especially in coastal communities (World Bank Group, 2016). From this systemic view of the sector, this report highlights the relevance of approaching fisheries as an integral system that draws in key actors and their roles within the value chain, where the solution to existing challenges throughout the process and, or transformations designed to make it more sustainable, translate into funding opportunities that scale positive impact.

It is of supreme relevance to acknowledge the pressing need to involve more actors and foster collaboration in the sustainable fishing ecosystem in Mexico. One of the main conclusions is that aligned action amongst stakeholders within the value chain can catalyze participation, which positively transforms the reality of more vulnerable communities and actors. This report demonstrates that sustainable fishing is suitable and desirable for the planet and communities, producers (fisher people), processors, marketers/ brokers/wholesalers, distributors, families, and chefs. This report exposes the current state of the ecosystem, addressing the stakeholders' conception of sustainability, challenges they face, and potential pathways to bridge existing gaps. It details what can be financed, by whom, and how they could play active roles and directly address the needs voiced by key audiences. Finally, suggestions and recommendations are presented for each stakeholder category to guide how each group can contribute to sustainability in the industry and direct investors and venture philanthropists seeking to work with a specific audience group.

Consequently, this report establishes how a systemic approach can increase the value added to the value chain, the potential favorable social and environmental impact to be created and scaled, and the financial profitability that can arise from actively addressing these challenges.

2 Current State of the Ecosystem

This section provides a structured view of the main strengths, opportunities, challenges, and areas for improvement in this sector to provide funders with an overview of the reality of the ecosystem and a structured description of the process and the actors that are part of the value chain. This approach embraces an ocean-to-table perspective.

2.1. Ecosystem Overview

Through this redefined SWOT (an acronym for strengths, weaknesses, opportunities, and threats) analysis, the report highlights the anchors of success that can drive growth and the limiting factors that require attention, showcasing the enormous potential for positive impact achieved through partnerships and alliances.

Success Anchors (Opportunities)



Profitability of fishing: Fishing in Mexico is a profitable business. From capturing to commercialization, business models along the entire value chain add significant value. These opportunities scale profits and promote more sustainable and efficient practices while contributing to social transformations.



Emerging investment models: Diverse actors are beginning to explore disruptive business models and innovative solutions that may be replicable in different regions. From implementing monitoring technologies to regenerative fishing practices, the ecosystem has considerable potential to attract investment and generate impact.

Limiting Factors (Weaknesses)



Limited access for coastal communities:

Fisheries-dependent communities face enormous challenges, including structural poverty, lack of access to infrastructure and markets, and limited financial and technical support. These barriers hinder the ability of these communities to benefit from sustainable fishing and innovation in the sector.



The disproportionate burden on overexploitation:

Currently, perceived responsibility for overexploitation of fishing resources relies almost entirely on fishermen and women. However, other actors along the value chain, from intermediaries, distributors, and final consumers, also preserve the ocean and its resources. Solutions must target the entire chain, not just fishermen and women.

Gold Mines (Opportunities) ---



Untapped investment pipeline: There is a significant investment pipeline with neglected opportunities. Blended finance solutions, blue bonds, and venture capital models for fishing technology startups are examples of instruments that could channel resources to the sector. A financing architecture can be structured with adequate support to scale up the most successful production models.



Shared value in the ecosystem: Each actor within the ecosystem can add value in their specific area. From impact investors to foundations to governments, there is a real opportunity to collaborate and generate impact through joint solutions that address financial returns, environmental preservation, and poverty reduction.

Red Flags (Threats) ---



Challenges in cross-sector collaboration: One of the biggest obstacles is the need for a common language among the different actors in the ecosystem. Finding a middle ground where financial return expectations can be aligned with sustainability objectives still needs to be solved and challenging.

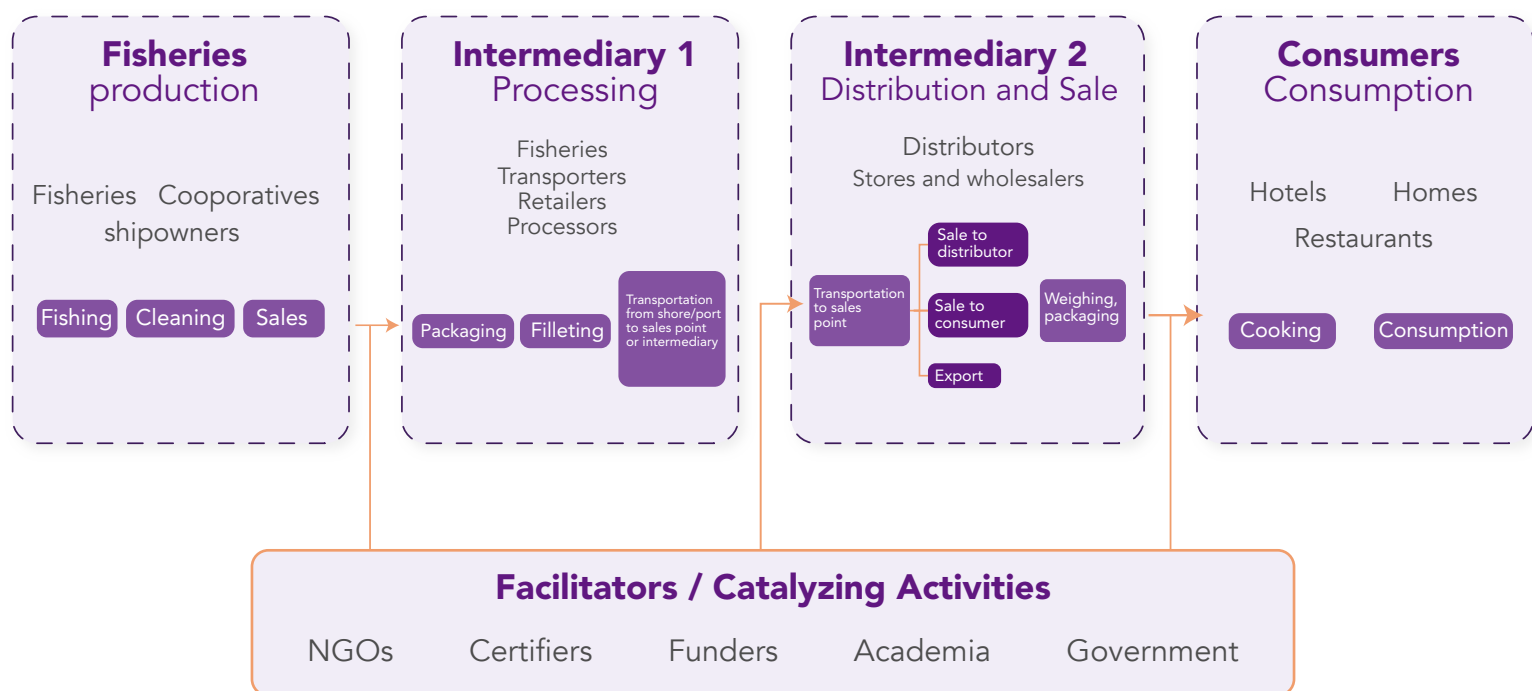


Insecurity and organized crime: Security in Mexico significantly threatens the fishing sector. Illegal, unregulated, and unreported (IUU, from its acronym in Spanish) fishing is a bleak reality, partially driven by organized crime actors operating in several regions. This jeopardizes the sustainability of the resource and the integrity of those working in the sector.

2.2. Value Chain and Relevant Stakeholders

Grasping the process and actors involved is the first step in approaching fishing from a systemic perspective. In this case, considering the value chain from production to final consumption will make it possible to understand the scenario in which an impact is being generated on the environment, the economy, and society. This section provides information on the value chain in the fishing sector, relevant actors, and their role in the process.

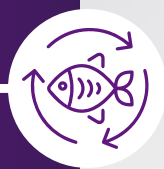
Figure 1. Value chain of sustainable fisheries in Mexico



Source: Latimpacto



STAGE 1 STAGE 2: STAGE 3: STAGE 4:



Production (Fisheries)

In the production stage, there are three main activities: fishing, cleaning, and sale. Fishing initiates the value chain. Cleaning, which includes the removal of organs that can spoil fish and its refrigeration, is crucial to meet quality standards in the market. Pricing for sales increases with an adequate cleaning process, as it can increase payment to fishermen and women by meeting national and international standards. The actors at this stage are fisheries, fishing cooperatives, shipowners, and fishing communities in general.



Processing (Intermediary 1)

The next phase in the value chain of sustainable fishing in Mexico is processing, which includes fishmongers (wholesalers or retailers), transporters, marketers, processors, and all those who take another role between fishermen and women and their final consumers. These actors, which for the effects of this report are collectively referred to as intermediary 1, are responsible for purchasing from fishermen and women and cooperatives and carrying out tasks such as packaging, filleting, and transporting fish from the shore or port to sales centers or other intermediaries.



Distribution and Sale (Intermediary 2)

In the value chain, the distribution and sale of processed seafood include sales to distributors, who sell to retailers, restaurants, wholesalers, supermarkets, international buyers (exports), and other sale points. Seafood is transported while ensuring a temperature-controlled chain and prepared for sale to final consumers. Each actor shall ensure safety requirements to preserve the quality of the product to be sold to markets. Intermediary 2 encompasses any actor that buys from Intermediary 1. They may be a seller or distributor, stores, supermarkets, transporters to other points of sale, or the person in charge of exporting the fish product.



Consumption (Consumers)

The last link in the fishery value chain is consumers, including hotels, restaurants, and households. Each can buy directly from cooperatives, intermediaries 1 or 2, distributors and markets, stores, or supermarkets. A crucial need is to streamline and seek efficiencies in how seafood reaches consumers from fisheries. Finally, seafood is prepared for consumers in hotels, restaurants, and homes, closing out the fishing value chain.



Catalyzing Activities (Facilitators)

In the ecosystem of sustainable fisheries in Mexico, facilitators are actors that support and play an essential role in the sustainability transition of fisheries. These actors ensure the viability, financing, certifications, and research in sustainable fishing. These actors include non-governmental organizations (NGOs), local and international governments, certifiers, funders, and academia.

For a more detailed description of each actor involved in each stage, see Annex 1 of this report. These stages and key actors will be referenced throughout the report when identifying the challenges in the value chain that constitute opportunities for generating impact and suggesting possible paths and steps to ease each actor's challenges and boost their vision of success.

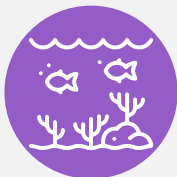
3 Sustainability in Fishing

Sustainability can be considered as the path to **integrate economic growth**, social inclusion, and environmental protection in a balanced way to achieve sustainable development (United Nations Organization, 2015). Since fishing is a natural resource extraction activity, sustainability is inherent to the permanence of this activity. In this sense, the conversation has brought to the table terms such as the "blue economy" and explored discussions on how fisheries can operate sustainably, protecting marine biodiversity while ensuring that ocean-dependent economies continue to thrive (UN Environment Programme (UNEP), 2012). Although several sustainability standards in fisheries provide excellent value for stakeholders to validate compliance with specific criteria, it became evident during this study that there needs to be a unified interpretation of sustainability applied to the sector. Therefore, in pursuing alignment across different actors and catalysts in the value chain, it is fundamental to have a common language to articulate required actions to achieve systemic impact.

This section addresses different sustainability criteria, integrating the three above-mentioned dimensions, and provides examples of how these criteria add value to different stakeholders in the ecosystem, resulting in incentive alignment that alludes to the desirability of sustainability in fishing.

3.1. Sustainability Criteria in Fishing

Through the analysis and coding of perceptions of the main actors in the fishing ecosystem, it was confirmed that sustainability criteria are applied at the environmental level and are deeply linked to social and economic factors. However, actors need to be more consistently cognizant of this approach. The following is a description of a unified set of criteria in pursuance of aligning the vision of sustainability that allows for an optimal integration of actions and actors involved:



Environmental: Reserving marine ecosystems and implementing sustainable fishing practices, such as using species-friendly techniques and monitoring natural resources, are essential to ensure ecological balance and thus avoid altering the biomass. This includes actions such as **environmental management** of fisheries, conservation of marine ecosystems, and the adoption of **sustainable fishing certifications** are fundamental.



Social: Fishing communities must be empowered, promoting social inclusion and gender equality. This encompasses improving working conditions, access to infrastructure and essential services, integrating **women and youth** in decision-making, their recognition in the process, and increasing awareness and visibility on existing inequities to address them. Recognizing territorial rights and promoting governance is essential to consolidating a socially equitable model.



Economic: Economic sustainability focuses on ensuring that the benefits of the economic activity as a whole reach fishing communities directly, promoting **sustainable yields** that guarantee actors in every step of the value chain a fair return for their work. This involves **promoting local consumption**, access to adequate financing, and the creation of **value-added markets**.

It is paramount to recognize the nature of sustainability as a transformation that occurs gradually over time within different economic sectors at different ecosystem levels (Geels, 2011). This process can be considered the sustainability of the value chain. Therefore, an actor that promotes contributes to the development of, and implements these criteria, partially or in full, could be defined as sustainable, honoring that they may find themselves in a transformation process transitioning to a full or ongoing implementation in a staged-out value chain, acknowledging each phase will pose challenges and opportunities.

3.2. Incentive Alignment for Sustainability

Incentive alignment amongst actors that take an active role in the value chain, making a sustainable transition desirable, is fundamental. These actors' role in sustainability is crucial since they will enable or hinder implementing and adopting these criteria. If it becomes evident that implementing these criteria is desirable for them, this transformation can last over time, and its implementation will be voluntary (The Prosci ADKAR® Model, n.d.).

If seeking to validate said willingness and desirability, a stakeholder would respond favorably to the following questions:

Does applying sustainability criteria support the achievement of your vision of success?

Does applying sustainability criteria ease challenge resolution and navigation?

This report showcases five sustainability criteria, esteemed as value-adding for various stakeholders in the ecosystem, by conveying that their adoption is considered beneficial in accomplishing their vision of success and mitigating the adverse effects of challenges throughout production, processing, distribution and sale, consumption, and streamlining processes.



Traceability

The ability to track seafood products across the value chain contributes to verifying their legality and ensuring transparency regarding how they are handled throughout the value chain. This ensures that each process stage, from catch to sale, complies with fishery regulations and quality standards and monitors and captures fishing data. It improves consumer confidence, facilitates efficient identification and resolution of problems within the chain, and guarantees the safety and quality of the final product.



Using the Entirety of the Product

Taking advantage of and using all components of fishery products, even customarily discarded, such as scales, skin, and shells, among others, can generate new sources of income. For example, there are women in Mexico who design artisanal products from fishing waste, creating new business models that are scalable and replicable in various communities and markets. This reduces waste and promotes innovation, job creation, strengthening of the social economy, scalability of new business models, and empowerment of women fisherwomen.



Product Safety

Implementing specific fish handling techniques such as ikejime significantly improves product quality¹. This sole practice increases the product's final price and extends shelf life by up to two years. Furthermore, there are other safety practices with relatively simple implementation, such as immediately refrigerating seafood in small coolers with ice inside fishing boats or removing gills from the fish, which can provide multiple benefits to different actors within the value chain, such as better quality and safety in the health and nutrition of seafood that goes through intermediaries and reaches final consumers.



Governance, Transparency, and Equity in Decision Making

Implementing specific fish handling techniques such as ikejime significantly improves product quality . This sole practice increases the product's final price and extends shelf life by up to two years. Furthermore, there are other safety practices with relatively simple implementation, such as immediately refrigerating seafood in small coolers with ice inside fishing boats or removing gills from the fish, which can provide multiple benefits to different actors within the value chain, such as better quality and safety in the health and nutrition of seafood that goes through intermediaries and reaches final consumers.

¹Ikejime is a slaughtering technique that minimizes stress and ensures the fish are bled and cleaned (Stenstrom, 2023).

Certifications and sustainable practices



Improving fishing processes and techniques through certification by fishermen and women, cooperatives, intermediaries, and facilitators increases the value of seafood products and promotes transparency throughout the value chain. This also brings a social benefit by generating value in their fishing activity and strengthening community ties; an economic benefit by expanding the fish supply in national and international markets; and an environmental benefit by incorporating practices that promote conservation and management of species, ensuring future fish production based on closed fishing seasons and species-specific standards.

Improved Quality of Life



Access to basic life needs for fishermen and women, communities, cooperatives, ejidos, intermediaries, supply chain actors, and their families can lead to improved fishing practices, food safety, traceability, and even certification of their fisheries production. Investment in improving road infrastructure, access to rural electrification, access to water and sanitation, and communication networks enhanced the quality of life for fishermen, fisherwomen, and communities.

It should be noted that further criteria can also reflect an alignment of incentives. These criteria point to opportunities for promoting their implementation through solutions that add value and impact, which, in turn, can be eligible for financing.

4 Ecosystem Challenges

A systems-based approach to any economic sector will reveal that each challenge in the value chain can be identified as an opportunity to design, implement, and fund a solution. These solutions that solve real challenges are the paths to add value to the ecosystem, generate a favorable impact by improving the quality of life of relevant stakeholders, and obtain a financial return. This section details the main challenges and opportunities for impact in the ecosystem. For ease of interpretation, challenges have been classified into three categories: (1) challenges in the value chain, (2) challenges that cut across the sector, and (3) challenges in access to financing, broken down by stage of the value chain and relevant stakeholders.

4.1. Challenges in the Value Chain

4.1.1. Stage 1: Production (Fisheries)

- ➔ **Illegal fishing:** The capture of non-legalized species by illegal groups threatens the conservation of species and the future sustainability of the fishing sector and represents a threat to the preservation of fishing activities. *i.e., Illegal fishing of totoaba and goldfish has led to the extinction of these species and others, such as the vaquita, native to the Sea of Cortez in Baja California Sur.*
- ➔ **Lack of knowledge of sustainable fishery management techniques:** Knowledge of techniques that preserve the product's safety, ensure its cleanliness, prolong its shelf life, and increase the economic value of seafood products. *i.e., the use of hooks instead of nets, the use of the Japanese ikejime technique, maintaining the cold chain from the catch to the final consumer, and using tools that can support the work of the fishery.*
- ➔ **Lack of skills and trained personnel:** Some communities and cooperatives lack trained personnel to carry out accounting and negotiation with distributors and inventories, which often results in these tasks being handled by intermediaries or not at all, impeding the autonomous management of the communities and access to financing for their projects. *i.e., accounting, reporting, or negotiations are done by an intermediary from a governmental, non-governmental, or private sector organization, which generates a high dependence on external actors and increases the number of intermediaries in the value chain.*
- ➔ **High costs of sustainability certifications:** Initiating and maintaining Fishery Improvement Projects (FIPs) and obtaining certifications such as the Marine Stewardship Council (MSC) can be costly, discouraging and hindering some fishers and communities from following these standards. *i.e., some fishing communities or small businesses cannot cover the ongoing costs of certifications, which prevents them from improving fishing tools and techniques and accessing other markets due to a lack of a record to support their work.*
- ➔ **Lack of adequate equipment:** The lack of proper fishing and diving equipment, such as boats, motors, and aquatic lanterns, puts the fishermen's and women's health at risk and limits the efficiency and safety of their operations. *i.e., capturing some species, such as lobster, requires the fisherman to dive to specific depths in the sea where adequate and constantly maintained diving equipment is necessary to prevent the fisherman's health from running any risk and facilitate fishing.*

4.1.2. Stages 2 and 3: Processing, distribution and sale (Intermediaries)

Unregulated prices and standards: The absence of regulated prices for fish trade and necessary standards of good practices triggers unfair prices and unequal negotiations. *i.e., fishermen and women may receive low compensation for their work. Lack of regulation compromises the cold chain, product quality, and preservation.*

Ambiguous legal nature: The lack of clarity about the legal nature of the actors involved in these activities allows some to engage in legal and illegal activities. This complicates the regulation and supervision of the sector, creating an environment where unsustainable practices can be practiced without consequences, affecting mainly fishing communities and other actors in the value chain. *i.e., organized crime is filtering more easily into the different operations asking for payments for use rights or some other type of extortion towards different actors.*

4.1.3. Stage 4: Consumption (Consumers)

Visibility of the consumer's role: The importance of end consumers in their purchasing decisions by choosing legal, in-season species and preferring the consumption of local species. Consumers can support the sustainability of fisheries. *i.e., Initiatives developed in Comepesca seek to make the role of consumers in the transition to sustainability visible.*

Access to traceability information: Detailed information on the traceability of each species is only sometimes available. Lack of transparency makes it difficult for consumers to make responsible and informed purchasing decisions. *i.e., Smartfish displays the origin, date, and lot of its products in its supermarkets, contributing to informed decision-making by consumers.*

4.2. Sectorial Challenges

Vulnerability and poverty of fishing communities: The conditions of poverty and the lack of road and electrification infrastructure in fishing communities increase their vulnerability to climate change. This also limits access to new business models, new markets, and, above all, access to essential services, which affects the quality of life and sustainability in the communities. *i.e., The most remote communities may be even further away from any support tool just because they need more infrastructure to receive support and financing for their projects.*

Lack of visibility and legislation with a gender perspective: Women in fishing communities usually are invisibilized and do not have legislation for their work with a gender perspective. This limits their participation and the performance of their role, which perpetuates inequality and reduces their capacity for development and that of their families. *i.e., Marea Sostenible seeks to make the role of women in the fishing sector visible through its network of women that already covers 11 of the 17 fishing states in Mexico.*

Climate change impacts: Climate change has altered the marine biomass, forcing communities and seafood consumers to adapt and mitigate the impacts of the fishing sector at a faster rate. *Some of the effects of climate change are the reduction in the size of some marine species and the extinction of other species, which reduces the availability of seafood products and affects economies and food security.*

Data and monitoring information: There needs to be more data in the fisheries sector; more monitoring hinders the sustainable management of fishery resources and the implementation of conservation strategies and business models hand in hand with sustainability for different stakeholders. *i.e., some essential documents for the fisheries sector, such as the National Fishing Charter and fish species sheets, present few updates and incomplete information due to a lack of data and monitoring, which hinders sustainable practices and puts fishermen and women's health and food security at risk.*

Bureaucratic burden: There are complications for communities, fishermen and women, organizations, cooperatives, and collectives seeking to become legally constituted, either as a civil association and then as donors or as a company. Bureaucratic procedures include difficulty complying with legal requirements limiting access to financing and support for their communities. *i.e., In Mexico, complying with fiscal and legal requirements requires compliance with conditions such as tax obligations and access to donation receipts, which implies a significant administrative burden and payment for this, as well as assuming the complications of the procedures.*

4.3. Challenges in Access to Financing and Expansion

The sustainable fishing ecosystem faces multiple challenges related to access to financing that impact both sides of the operation: on the one hand, the demand for resources from local cooperatives to market solutions (including start-ups), and on the other hand, the supply of financing resources addressing a broad spectrum of funders ranging from foundations, multilateral funds to large investors.

The following are the main challenges that hinder both sides of financing in this sector, as well as some possible areas of improvement that need to be addressed to promote the sustainability and growth of the fishing industry.

4.3.1. Resource Demand

Fishing Cooperatives

Cooperatives, which are key players in the sustainable fishing ecosystem, face several obstacles related to obtaining financing, which impacts their ability to grow and transition to more sustainable models and practices:

Mistrust of external actors: Communities and fishing cooperatives often need to trust external entities seeking solutions and interventions more. This distrust can delay the process of collaboration with investors, donors, and other key actors, limiting access to funds needed for sustainable projects.

Lack of capacity and personnel: Many cooperatives need more human and technical resources for efficient strategic management. They need to find a way to design grant applications, develop strategic plans, or generate sound financial models. Even after receiving funds, they need help with monitoring and accountability reporting, which weakens their relationship with funders and affects the continuity of support received.

Weak governance structures: A significant challenge is the need for robust governance structures within cooperatives. With transparent and participatory decision-making processes, the efficient use of financial resources is maintained, raising doubts about the long-term sustainability of interventions.

Lack of repayment culture: With a more extraordinary tradition of receiving grants rather than debt-based financing, many cooperatives still need to develop a repayment culture. This restricts the financing options available and affects financial sustainability and the ability to attract new investors seeking more robust return models.

Ecosystem in General

Some cross-cutting challenges identified for organizations seeking funding in the sustainable fishing ecosystem as a whole are related to the visibility of the different actors and the effective measurement of impact:

Showcase of the role of other actors: Although cooperatives are essential, other participants in the value chain, such as end consumers, also play a crucial role in the sector's sustainability. However, their importance often needs to be sufficiently visible. Initiatives such as Comepesca attempt to educate consumers about their responsibility for sustainability, but these efforts need to be scaled up and replicated to generate significant changes in consumer behavior.

Lack of clear impact metrics: One of the main challenges for funding is the need for clear and standard metrics that measure impact from the various perspectives of sustainability (environmental, social, and economic). Without a defined metrics framework, investors and donors have no clear guide to evaluating the success or social and environmental return on their investments, which limits their willingness to fund fisheries initiatives.

4.3.2. Resource Offer

Investors also face several challenges when considering financing sustainable fisheries projects, which is reflected in a perceived limited pipeline to find a good match between bankable solutions and their investment policies:

Typical investment ticket size: Many sustainable fishing projects in cooperatives or small communities do not require significant investments, which is only sometimes attractive to investors accustomed to more prominent investment tickets. This creates a disconnect between supply and demand for capital.

Clarity on return on investment: From investors' perspective, the return on investment in sustainable projects is sometimes clearly defined. Fisheries projects often need robust financial models that accurately indicate the financial and impact return that investors can expect.

Expected time horizon: The time required to obtain a return on investment in sustainable fisheries is often longer than in other sectors. This may discourage investors from seeking quicker or more immediate returns if they are not approached from a genuinely patient capital perspective.

Access to flexible financing: Many actors in the ecosystem need financing that is not only available for large-scale projects but also adaptable to local and community needs. Lack of access to flexible financing that considers the particularities of each cooperative and its unique challenges is an additional barrier to sustainable development. (Additional challenge identified).

In summary, the financial sustainability of the fisheries ecosystem depends on navigating these key challenges to unlock funding sources that support inclusive and sustainable growth through mechanisms that recognize the reality of the communities and organizations in the ecosystem. Building trust between cooperatives, organizations, and investors, developing internal capacity, improving governance, and creating more apparent impact metrics are crucial steps to ensure the success of this sector in the coming years.



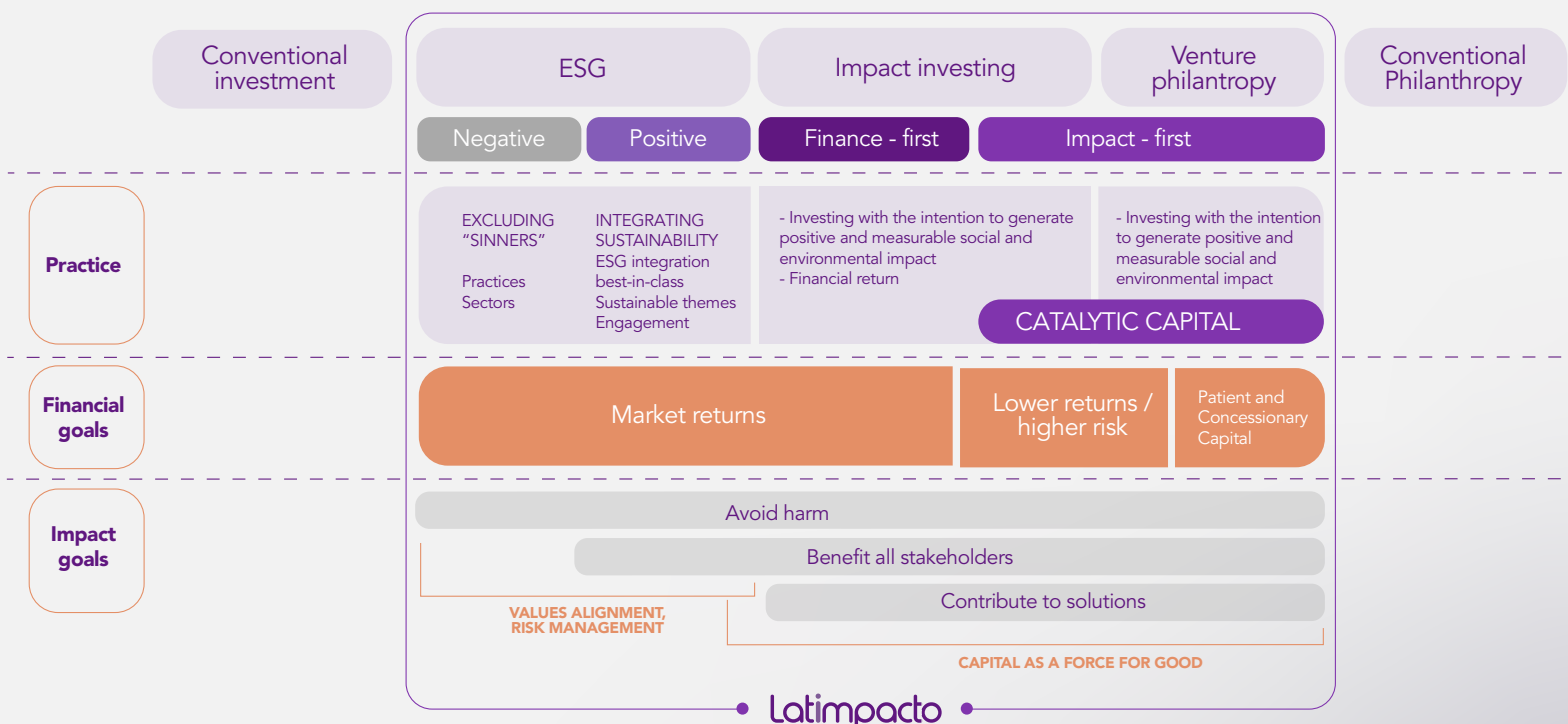
5 A Good Investment/ Financing Match

In the context of the sustainable fisheries ecosystem, identifying the right pathways to finance, add value, and solve key challenges requires a thorough understanding of what can be financed, who can play these roles, and what impact these actions will generate. The goal is to close the gaps so that funders and funding recipients achieve their vision of success, and it will be referred to in this report as a good investment or funding match.

A good financing match in this ecosystem must meet several criteria: First, it must contribute to solving a social or environmental problem, given the nature of sustainable fishing. Secondly, it must be aligned with sustainability objectives, offer clarity regarding return expectations (either financial or impact) under instruments that suit the nature of both parties and consider the time frame necessary for the funded initiatives to generate sustainable and scalable changes. In addition, it is key that financing is directed to inclusive market-based models, integrating local actors and promoting transparency in decision-making and accountability.

Latimpacto's capital continuum, illustrated in Figure 2, provides a valuable framework for guiding solution-focused investments in the fisheries ecosystem. This continuum ranges from fully commercial investments to philanthropic grants and demonstrates that investment strategies can vary according to the balance between social return and financial impact (Bannick et al., 2020).

Graph 2. Capital Continuum



Source: Latimpacto

This capital continuum is not a static process but advances over time, where philanthropic capital creates a pipeline of opportunities for impact investing. To move from one stage to another, certain conditions need to be met, such as strengthened governance, consolidation of impact metrics, and long-term financial viability of the initiatives. These elements are essential for impact investments to generate profound and lasting change in the sustainable fishing ecosystem.

This section identifies specific pathways in these general investment strategies so that funders can recognize where they can generate the most significant impact and funding recipients can narrow the search for actors that can meet their funding needs to contribute to environmental and social solutions in fisheries.

5.1. Impact Investing: Investment Verticals and Business Models

Impact investing seeks a positive social and environmental impact and a financial return. In this line, it is interesting to identify investment verticals and potential business models to allocate monetary resources to initiatives that address specific challenges within the value chain. This financing can be done through various instruments to drive innovative and sustainable solutions that bring different benefits to the value chain of the fisheries sector. The following table describes some business models that can be financed by various actors in different investment verticals and identifies the impact they can generate.

Business models to be financed	Actors that can finance	Impact/Sustainable Development Goal (SDG)
Electrification		
Sale of solar panels Construction of electrical networks Grid supply models (self-generation of energy)	Impact investment funds (debt, mezzanine, blended finance) Governments Multilaterals	Reduction of operating costs Access to energy that promotes the technification of the value chain, guaranteeing access to ice, machinery, etc. Food safety. SDG: 7 (Affordable and clean energy) 8 (Decent work and economic growth) 12 (Responsible production and consumption)

Business models to be financed	Actors that can finance	Impact/Sustainable Development Goal (SDG)
Occupational health and safety		
Provision of social and health services. Occupational Risk Management (Software as a Service, SAAS) Occupational risk insurance companies	Impact investment funds (debt, mezzanine, blended finance) Multilaterals Government Philanthropic donors / venture philanthropy (concessional loans)	Improvement of public health infrastructure Improved occupational risk management and life expectancy. Financial insurance support for workers Disease reduction and prevention. SDG: 3 (Health and well-being) 8 (Decent work and economic growth) 10 (Reduction of inequalities)
Diversity, equity and inclusion		
Business models led by / for women / LGTBQ+ community Business skills development (incubators/accelerators) focused on women and girls Design of production models Provision of health care services for women and girls Childcare services	Impact investment funds (debt, mezzanine, blended finance) Multilaterals Government Philanthropic donors / venture philanthropy (concessional loans)	Economic empowerment. Reduction of the gender gap. Job creation. Strengthening women's innovation and entrepreneurship. Improved health and well-being of women and children. SDG: 3 (Health and wellness) 5 (Gender equality) 8 (Decent work and economic growth)
Education		
Support for access to secondary and higher education Skills training and workshops. Opening of new educational institutions.	Impact investment funds (debt, mezzanine, blended finance) Multilaterals Government Philanthropic donors / venture philanthropy (concessional loans)	Strengthening of technical and soft skills and abilities. Increase in educational policies and programs. Increased adaptive capacity and vulnerability to climate change. Increased awareness of the dynamics of the sustainable fishing sector. SDGs: 4 (Quality Education), 10 (Reducing Inequalities) 17 (Partnerships to achieve objectives)

Business models to be financed	Actors that can finance	Impact/Sustainable Development Goal (SDG)
Logistics		
SAAS for traceability and inventory management	Impact investment funds (debt, mezzanine, blended finance)	<p>Greater visibility and control of the traceability of the value chain. Reduction of operating costs. Reduction of losses and waste. Regulatory compliance.</p> <p>SDG: 9 (Industry, innovation and infrastructure) 12 (Responsible production and consumption) 17 (Partnerships to achieve objectives)</p>
Transition to sustainability		
<p>Fishery improvement projects to achieve certifications (FIPs)</p> <p>Maintenance of certifications</p> <p>Data collection</p> <p>Payments for environmental services</p> <p>Clean technologies</p>	<p>Foundations</p> <p>Philanthropy</p> <p>Companies (corporate funds)</p>	<p>Improvement of fishing practices</p> <p>Quality and sustainability of fishery products.</p> <p>Increased data availability and monitoring</p> <p>Strengthening social capital and sustainable development</p> <p>Research and Development (R&D)</p> <p>Improved capacity to adapt to climate change</p> <p>SDG: 12 (Responsible production and consumption) 13 (Climate Action) 14 (Underwater life) 15 (Life of terrestrial ecosystems)</p>

5.2. Venture Philanthropy

Venture philanthropy prioritizes social impact over financial return with a willingness to use patient and concessionary capital, a greater appetite for risk, and a focus on supporting recipients through three pillars: tailored financing, non-financial support, and impact measurement and management. In this sense, it finances innovative models or explores creative financing instruments. It seeks to strengthen initial maturation stages and thus prepares the ground, creating a pipeline for future, more structured investments by financing market-based models.

Therefore, capacity building, technical assistance, and investment in R&D, which is key to developing technological solutions and innovative practices that strengthen the sector's sustainability, are interesting avenues to pursue.

5.2.1 Capacity Building and Technical Assistance

The capacity building required to close the gaps in the sustainable fisheries ecosystem in Mexico is presented through two main paths: Path 1, which focuses on training, workshops, coaching, and certifications for stakeholders, and Path 2, which proposes a consulting and direct technical assistance approach, where experts and outsiders implement specific solutions. The two paths are complementary and seek to strengthen the capacities of the fishing ecosystem to achieve sustainability.

Required skills:

- Sustainable fishing techniques
- Resource management
- Accounting and finance
- Fisheries sustainability (certifications and adaptation skills)
- Use of technologies in sustainable fisheries management
- Governance and participation processes
- Project management consulting
- Technical assistance in fishing processes
- Regulatory compliance support

Actors who could play a role in financing this path

- Business incubators
- International and multilateral assistance entities (*i.e.*, *German Society for International Cooperation, GIZ*)
- Academia (*i.e.*, *universities and research centers*)
- Government institutions that promote community development (*i.e.*, *National Institute of Social Economy, INAES*)
- NGOs that can be fiscal sponsors or share technical skills (*i.e.*, *COBI, Emana Social, Smartfish AC, Mar Invest*).



Training and skills development

This path focuses on training the actors in the fishing sector to acquire the necessary skills for their development and sustainability. It is recognized that capacity and skills-building support are crucial to improve the effectiveness of the fisheries ecosystem.



Activities that can be financed:

Capacity building, workshops, training, and certifications in skills relevant to ecosystem and value chain actors can be funded. This includes training in sustainable resource management, responsible fishing practices, product marketing, and financial management.



Impact of financing these activities:

Practical training can lead to greater independence and self-management among sector actors, reducing dependence on external donors. This increases financial sustainability and improves fishing techniques in the medium and long term. Developing skills in the sector redefines how actors negotiate, access finance market products, report impact and make decisions, allowing them to better adapt to climate change and market dynamics. Building competencies not only strengthens individual organizations but also contributes to the overall health of the fisheries ecosystem, promoting practices that ensure the conservation of marine resources and the well-being of the communities that depend on them.



Technical assistance

Technical assistance in the fisheries sector involves external experts implementing direct solutions and providing targeted support to address the priority needs of fishing cooperatives.



Activities that can be financed:

Consulting activities that include executing management, administration, and finance tasks are eligible for funding. This includes grant and grant writing, metrics and reporting, and financial modeling. Assistance in investment banking functions to facilitate access to funding is also considered.



Impact of financing these activities:

Technical assistance has the potential to immediately address the need to improve efficiency and equity in decision-making in the short and medium term. It also strengthens compliance with rules and regulations, as well as the capacity of organizations to implement sustainable practices. In the long term, this intervention can contribute to a more resilient fishing ecosystem, where cooperatives improve their operations and become key actors for the sustainability and conservation of marine resources.

5.2.2. Research and Development (R&D)

Investment in R&D enables the collection of data for informed decision-making and to prepare for the effects of climate change on the fisheries sector.

Activities that can be financed:

Fisheries data collection: Real-time monitoring systems to collect data on species, fishing catch techniques, and ecosystem health. Information to monitor marine ecosystems: species size, changes in species migrations, effects of ocean pollution (plastic, microplastics, mercury, and other contaminants).

Data-based models: Development of technologies to predict fishing patterns, ecosystem health, and the impact of natural phenomena, which can improve decision-making and adaptation to climate change.

Policy advocacy: Generation of impact studies that inform public policies and support the creation of regulations based on scientific data.

Alliances with academic institutions: Collaborations to improve applied research and use the results in processes of regulatory advocacy and recognition of the dynamics of the fishing ecosystem.

Actors that can finance R&D:

Impact funds: Capital for long-term projects that generate information, data, and solutions for marine sustainability, such as funds focused on the blue economy.

Philanthropic foundations: Grants to support research and technology development on environmental impacts and the effect of climate change on marine ecosystems and communities.

Governments and multilateral agencies: Funding for initiatives related to food security, environmental conservation, and fishing community practices, i.e., FAO programs.

Fishing sector corporations: Support for projects that improve transparency and traceability in the supply chain.

Private investors: May include capital for technologies such as ecotechnologies and big data applied to sustainable fisheries.

Some financial vehicles to generate this impact:

Grants and donations: Ideal for high-risk research, such as real-time monitoring platforms of fish catches to learn about fisheries at risk.

Concessional debt: Loans with favorable conditions (interest rates, grace periods, and patient repayment) for R&D projects, such as technologies to monitor the environmental impact of fishing.

Venture capital: Financing for startups that develop traceability or fishery monitoring technologies.

Blended finance structures: Combination of grants with private investments, where concessional capital mitigates risks. *i.e., An impact fund leveraged with grants from a foundation to finance big data fishing startups.*

Impact bonds (blue bonds): Debt instruments with returns linked to impact, such as reduced illegal fishing or improvements in traceability. This mechanism can include payment by results schemes.



6 Final Suggestions and Recommendations

Sustainability in the fisheries sector is based on implementing responsible practices and creating a financial framework that integrates the perspectives of diverse stakeholders. Adopting a systemic approach to financing involves recognizing and addressing the interconnections between cooperatives, investors, governments, and local communities. Through collaboration, exchange spaces, and processes open to negotiation, maximizing the positive impact on the ecosystem is possible, ensuring that sustainable fisheries initiatives are viable and resilient.

This final section presents specific recommendations for each stakeholder, highlighting how each can contribute to a broader and more meaningful transformation, creating a sustainable future in which fisheries are a driver of economic and social development. By identifying the priority challenges that each actor can address to contribute to greater sustainability in the value chain, the independent actions of each stakeholder group can be guided. Additionally, this helps pinpoint the areas where funders and other actors seeking to intervene in the ecosystem can focus their efforts to foster an enabling environment that enhances the identified sustainability criteria.



Cooperatives

- Implement governance practices for the self-management of fishing communities.
- To meet the needs of transparency and traceability throughout the value chain.
- Prioritize the strengths and knowledge of the sector's stakeholders as an initial step in the search for solutions—*i.e., inventory control and monitoring*.
- Form alliances between cooperatives to strengthen their position in negotiations with intermediaries and improve market access.



Intermediaries

- Implement negotiation transparency, ensuring fair prices reflecting the product's value.
- Form alliances with funders to open distribution channels for solutions that enable product traceability, improve trust, and expand into new markets.



Consumers:

- Use purchasing power by making informed purchases of legal, seasonal, and local species. *i.e., COMEPESCA provides information on sustainable fishing.*



Funders:

- Define and be clear about the type of impact to be achieved by financing initiatives.
- Develop innovative and creative financing mechanisms, including blended finance structures that combine different sources of capital to maximize impact and alternative guarantee mechanisms such as climate insurance funds.
- Allow exploration of new mechanisms and outcomes, recognizing prudent risk levels, and considering industry-specific guarantees, such as climate guarantee funds, to encourage investment in sustainable fisheries projects.



NGOs:

- Diversify revenues and avoid relying exclusively on donations. Explore the provision of services, according to the fiscal figure, to implement cross-subsidy models.
- Seeking additional income. Civil associations (CAs) can receive income equivalent to 15% of the amount received in donations. This income can be reinvested in other initiatives or used as a negotiation tool to align incentives with donors.
- Implement a matching-grant model granted by the organization to reflect commitment and alignment of objectives with donors.



Government / regulatory entities:

- Implement regulations with a gender perspective and adapt to the different stages of the value chain. i.e., regulate the price of certain species like the price of products in the basic food basket is regulated.
- Review and update the regulations and instruments necessary to ensure legal and sustainable fishing.
 - ↑ Continuous monitoring and data collection are conducted to update the National Fishing Charter and technical data sheets by species.
 - ↓ Promote and recognize the role of women in the fishing sector, ensuring their participation and visibility in all stages of the value chain.

References

Bannick, M., Goldman, P., Kubzansky, M., & Saltuk, Y. (2020). Across the Returns Continuum. Omidyar Network. <https://omidyar.com/wp-content/uploads/2020/09/Across-the-Retuns-Continuum.pdf>

Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, 1(1), 24-40. <https://doi.org/10.1016/j.eist.2011.02.002>.

Latimpacto (2024, 08 05). Latimpacto leads social and environmental transformation in Latin America with Impact Minds: Beyond Frontiers. Sharing stories. <https://latimpacto.org/compartiendo-historias/latimpacto-lidera-la-transformacion-social-y-ambiental-en-america-latina/>

Latimpacto (2024, 10 09). Climate Action. Climate Action and Natural Capital. <https://latimpacto.org/accion-climatica/>

Lopez-Ercilla, I., Rocha-Tejeda, L., Fulton, S., Espinosa-Romero, M.J., Torre, J., & Fernandez Rivera-Melo, F.J. (2024). Who pays for sustainability in the small-scale fisheries in the global south? *Ecological Economics*, 226. <https://doi.org/10.1016/j.ecolecon.2024.108350>

United Nations (2015). Transforming our World: The 2030 Agenda for Sustainable Development. A/RES/70/1, 6. <https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

The Prosci ADKAR® Model (n.d.). Prosci. Retrieved September, 2024, from <https://www.prosci.com/methodology/adkar>

Stenstrom, J. (2023, June 6). How To Ikejime A Fish - A Step By Step Guide With Video. Cast & Spear. Retrieved September 20, 2024, from <https://castandspear.com/how-to-ikejime/>

UN Environment Programme (UNEP) (2012). Green Economy in a Blue World. 20. https://www.undp.org/sites/g/files/zskgke326/files/publications/Green_Economy_Blue_Full.pdf

World Bank Group (2016). Toward a Blue Economy: A Promise for Sustainable Growth in the Caribbean. <https://documents1.worldbank.org/curated/en/965641473449861013/pdf/AUS16344-REVISED-v1-BlueEconomy-FullReport-Oct3.pdf>

Annex 1: Description of Value Chain Actors

Stage 1: Production (Fisheries)

Fisheries: The fishermen and women, fishing communities, and ejidos are the actors that initiate the chain within the ecosystem. They catch various marine species and are responsible for selling their production to intermediaries or using it for local consumption.

Cooperatives: Cooperatives are crucial in organizing fishers and providing access to resources, training, and markets. These organizations help implement sustainable practices and improve the quality of life of their members. Some cooperatives can register as approved grantees to receive funding more directly.

Shipowners: Shipowners are known as fishing entrepreneurs and are responsible for equipping and maintaining the vessels used in fishing. They collaborate with fishermen, women, and cooperatives to meet their production objectives and market demand.

Stage 2: Processing (Intermediary 1)

Fishmongers: Establishments where fish is cleaned, filleted, and packaged. This process ensures safety and compliance with national and international food quality and safety standards. It is worth mentioning that there are cases where the work and tasks of the fishmongers can be carried out directly by fisheries, cooperatives, and shipowners. This reduces the gaps between each stage and ensures better production management from the fishery.

Transporters: They are responsible for transporting the fish production from where it was caught to the processing and sales centers. They use refrigerated vehicles to maintain the freshness of the product during transport, ensuring product safety. It is a challenge to identify these intermediaries within the fishery value chain.

Marketers: Marketers act as intermediaries between fishers markets and final consumers. Their function is to negotiate prices, and in most cases, they are the ones who set the price of fish production. This actor must ensure the quality of the product and distribute it to the points of sale where they resell what they buy to fishmongers, fishermen, women, cooperatives, and shipowners.

Processors: Processors are facilities where fish is transformed into higher value-added products such as fillets, packaged seafood, and other ready-to-eat products. This process includes cleaning, filleting, packaging, and labeling the fish. As in the case of fishmongers, there are cases where the fishmongers may belong directly to fisheries, cooperatives, and shipowners.

Stage 3: Distribution and Sale (Intermediary 2)

Sales to Distributors: Distributors buy the processed fish and sell it to retailers, restaurants, and other outlets. These outlets may include local markets, significant city stores, and other end-consumer sales schemes.

Stores and Department Stores: The products that reach these stores must comply with food safety standards. It was identified that there is a disconnection between fishermen and women and supermarkets.

Transportation to Point of Sale: This actor may purchase from other local transporters or marketers and distribute production to different geographic areas.

Export: Part of the processed fish is exported to international markets, contributing to the local economy and promoting sustainable fishing globally. This is mainly driven by regulations that require fishermen and women to comply with standards and reach international markets. In some cases, cooperatives and NGOs facilitate this process and directly carry out this role.

Transversal support activities (Facilitators)

Non-Governmental Organizations (NGOs): They provide diverse services in technical support and training to fishing communities, financing and resources needed for projects related to sustainable fisheries, can also provide support in the process of certifications and enforcement of regulations, and can carry out research and monitoring activities for sustainable resource management.

Government: Government institutions create, regulate, and establish policies on species management and support for fishing communities. They can provide incentives and subsidies to fishing communities. They also provide essential services and infrastructure, education, health, and different support programs that provide the basis for fishing communities to access development and a better quality of life.

Certifiers: These organizations evaluate and verify that fishing practices comply with production, marketing, and consumption standards. Some of these practices include sustainability criteria, such as proper management of fishery resources, techniques, and respect for closed fishing seasons.

Financiers: Investment funds, foundations, governments, and investors provide the necessary resources to support sustainable fishing projects and initiatives. They provide capital and support technological innovation and capacity building through training within their role. This support can be directed mainly to the heart of the fishery and companies supporting sustainable fisheries.

Academia: Universities and research institutions are key to knowledge generation and capacity building. They provide technical and scientific advice for sustainable policies and projects and offer training for fishermen, women, and cooperatives. Research promotes the understanding of population dynamics with marine ecosystems that positively affect the improvement of fishing practices.

Annex 2. Persons and Organizations Interviewed

AKK - Alianza Kanan Kay / Fondo Sureste Sostenible - Maria Eugenia Arreola

Blue You - René Benguerel

COBI - Stuart Fulton

COMEPESCA - Mexican Council for the Promotion of Fishery and Aquaculture Products - Citlali Gómez

EcoAdvisors - Hari Balasubramanian

Emmana Social - Emilienne de Leon and Marcela Salazar

INAES - Instituto Nacional de la Economía Social - Iván Cruz Méndez

Institute of Biology, UNAM - Universidad Nacional Autónoma de México - Xóchitl García

Mar +Invest - Antonio Gutiérrez

Marea Sostenible - Anabel, Marcela Salazar, Nancy Ochoa, Emilienne De León, Yanett Castro

Pronatura - Valeria Towns

Smartfish AC - Cecilia Blasco

Smartfish Retail - Javien Van Cauwelaert

WFF - Walton Family Foundation - Daylin Muñoz Nuñez

About the organizations:

Latimpacto

Latimpacto is well-established in Latin America as a key social and environmental transformation catalyst. With a network of more than 210 capital providers in 16 countries, its mission is to generate a positive impact in the region. The organization promotes concrete actions, directing capital to projects addressing climate change challenges.

In sustainable fishing, Latimpacto facilitates access to financing and resources for communities and NGOs, standing out for its financial innovation and systemic vision; this vision promotes a global perspective and a sense of community from the territories (Latimpacto, 2024). This strategy has allowed the creation of alliances within the network, and various communities and NGOs have been able to access the necessary funds to improve their practices and promote sustainability in different areas (Latimpacto, 2024).

Special thanks to:

WALTON FAMILY FOUNDATION

The Walton Family Foundation (WFF) has dedicated one of its main areas of focus to protecting rivers and oceans, marine ecosystems, and supporting fishing communities since 2006. The foundation has implemented programs and funded initiatives that promote sustainable fisheries and marine biodiversity conservation. To date, it has invested more than US\$85 million in Mexico's oceans, supporting projects that seek to improve the sustainability of fisheries and protect marine ecosystems. They have collaborated with more than 85 donors and positively impacted over 40 fisheries.

Under the slogan Healthy fisheries, thriving communities! WFF's goal for 2025 is to ecologically and socioeconomically improve priority fisheries in the Gulf of California and the Yucatan Peninsula in Mexico.

The research behind this report is part of this set of initiatives to support content creation that catalyzes impact in the sustainable fishing sector in Mexico.

Ecosystem organizations

To each of the organizations and their representatives, who kindly shared their time, knowledge, experiences, and stories during conversations about the ecosystem discovery process.

The
WALTON FAMILY
F O U N D A T I O N



funds this report.

Authors:

Nadia Stand Niño
Consultant of Latimpacto

Paola Sepúlveda
Consulting Analyst

Collaboration:

Juan David Ferreira
Latimpacto

Catalina Herrera
Latimpacto

Daylin Muñoz Núñez
WFF



WALTON FAMILY
FOUNDATION

Latimpacto