

# Financing the Peruvian Artisanal Small-Scale Fisheries Sector: an Analysis of Supply and Demand





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## Acronyms and abbreviations

<b>AE</b>	Associated Entity	<b>FONDEPES</b>	National Fisheries Development Fund	<b>PE</b>	Proposing Entity	<b>SUNARP</b>	National Superintendence of Public Registries
<b>CE</b>	Collaborating Entity	<b>FPI</b>	Fishery Performance Indicators	<b>PNIPA</b>	National Program of Innovation in Fisheries and Aquaculture	<b>SUNAT</b>	National Superintendence of Customs and Tax Administration
<b>CENPAR</b>	National Artisanal Fisheries Census	<b>GORE</b>	Regional Government	<b>PROCOMPITE</b>	Productive Competitiveness Support Initiative	<b>TASA</b>	Tecnológica de Alimentos S.A.
<b>CMAC</b>	Municipal Savings and Credit Bank	<b>GPS</b>	Global Positioning System	<b>PRODUCE</b>	Ministry of Production		
<b>CRAC</b>	Rural Savings and Credit Bank	<b>ID</b>	Identification Document	<b>RUC</b>	Peruvian Tax Identification Document		
<b>DHC</b>	Direct Human Consumption	<b>INEI</b>	National Statistic and Informatics Institute	<b>SA</b>	Strategic Alliance		
<b>DICAPI</b>	General Directorate of Captaincy and Coast Guard	<b>IHC</b>	Indirect Human Consumption	<b>SANIPES</b>	National Fisheries Sanitation Agency		
<b>EDPYME</b>	SME financial development company	<b>IMARPE</b>	Peruvian Sea Institute	<b>SBS</b>	Superintendence of Banking, Insurance and AFP of Peru		
<b>ENEPA-III</b>	Structural Artisanal Fisheries Survey	<b>Innovate Perú</b>	National Innovation Program for Competitiveness and Productivity	<b>SFT</b>	Sustainable Fishery Trade		
<b>FEPCMAC</b>	Peruvian Federation of Municipal Savings and Credit Banks	<b>IUU</b>	Illegal, Unreported or Unregulated	<b>SME</b>	Small and Medium Enterprise		
<b>FIP</b>	Fishery Improvement Project	<b>NGO</b>	Non-Governmental Organization	<b>SNP</b>	National Fishery Society		
<b>FMR</b>	Fishery Management Regulation	<b>OSPA</b>	Artisanal Fisheries Social Organization	<b>SOPA</b>	Mandatory Fisher's Insurance		



## I. Project objectives and data collection methodology

**The fisheries sector in Peru is polarized, with a specialized industrial fishery that is relatively sustainable and efficient on the one hand, and various small-scale and artisanal coastal fisheries that are underproductive and overexploited on the other.**

Widespread informality, insufficient use of technology, vulnerability to weather events, lack of long-term vision among fishers and boat owners, low levels of entrepreneurship, and deficient supervision, control and monitoring systems all count as formidable barriers to the development of the industry. One possible measure that could ensure the sustainability of artisanal and small-scale fisheries in Peru is to promote access to formal sources of capital for investment in strengthening fisheries management and the supply chain. However, the above-mentioned barriers and risks mean that financing is currently beyond the reach of most enterprises and associations involved in fishing.

**As such, the objective of the Peru: Coastal Fisheries Initiative - Challenge Fund (Peru CFI-CF) is to find new options for improving the sustainable usage and management of coastal fisheries in Peru through the search for formal financing routes.** To this end, the initiative aims to strengthen the capabilities of government authorities, the private sector and local fisheries communities with a view to establishing a sustainable and responsible investment portfolio that generates returns for certain selected coastal fisheries. Moreover, the initiative aims to support those fisher organizations with an interest in accessing capital for the preparation of comprehensive investment readiness assessments. Finally, it seeks to identify the barriers and limitations associated with drafting comprehensive investment readiness assessments, and to propose solutions based on policy recommendations. It should be noted that the initiative will not support the financing of investment opportunities that promote illegal, unreported or unregulated (IUU) fisheries, or an increase in fishing effort.

**To identify investment opportunities for fishers, as well as barriers and limitations to the access of capital, this report assesses the supply and demand of capital to the artisanal and small-scale fisheries sector in Peru<sup>1</sup>.** Moreover, it is hoped that the assessment can inform policy options or recommendations to mitigate these risks and overcome the barriers that prevent public and private entities from financing this industry in a sustainable manner. The scope of this study is to analyze the supply and demand related to financing in three of Peru's ten coastal regions: Piura, on the northern coast, Ancash, in the center; and Arequipa, in the south. Together, these regions allow for a comprehensive insight into the realities of the artisanal and small-scale fisheries sector in Peru. In addition, these three regions host the businesses, organizations and entrepreneurs best suited to receiving formal financing, whether from public or private sources.

**This report includes quantitative and qualitative information from a large number of sources.** To analyze demand, we used the 2012 National Artisanal Fisheries Census (CENPAR)<sup>2</sup> and the 2015 Structural Artisanal Fisheries Survey (ENEPA-III). However, these databases do not analyze the social and economic characteristics of the small-scale fisheries sector, and nor do they truly reflect the status of the artisanal fisheries sector (due to limited coverage and because much of the data is now outdated). Therefore, we complemented this data through workshops and interviews with the relevant agents (fishers, boat owners, processors, enterprises and organizations) in Ancash, Arequipa and Piura (see Figure 1).

**As part of the fieldwork, in April and May 2019 we conducted in-depth interviews with 39 representatives of enterprises and associations involved in artisanal or small-scale fisheries in 20 communities across the selected regions.** In the region of Piura, we interviewed nine boat owners and four businesspersons across nine fisheries communities (four in the province of Talara, three in the province of Paita and two in the province of Sechura). In the region of Ancash, we interviewed eleven boat owners, four businesspersons and one project manager<sup>3</sup> across six fisheries communities (three in the province of Santa, one in Huarney and two in Casma). Finally, in Arequipa region, we interviewed nine fishers and one leader of an artisanal fishers' association across five fisheries communities (three in Caraveli province, one in Camaná and one in Islay). In addition, we interviewed officials from some of the authorities responsible for the industry: PRODUCE, FONDEPES, the national government program "A Comer Pescado" and IMARPE. We sought to understand the viewpoints of these officials about the opportunities, barriers and limitations to promoting better access for industry associations to formal sources of capital.

<sup>1</sup>This is the short-version (translated in English) from a longer study (made in Spanish) named: "Diagnóstico de la oferta y la demanda de financiamiento al sector de pesca artesanal y de menor escala en las regiones peruanas de Áncash, Arequipa y Piura".

<sup>2</sup>Instituto Nacional de Estadística e Informática (2012). Primer Censo Nacional de la Pesca Artesanal 2012 (I-CENPAR 2012). Given that there is no latter census, we refer to this document as CENPAR.

<sup>3</sup>Project managers are representatives of a public (for example, PRODUCE) or private entity (for example, an employee of Tecnológica de Alimentos S.A. – TASA) in charge of formulating and developing an investment readiness assessments for the fishers. They are involved most actively during the application processes overseen by PNIPA or the programs of the regional governments for social development (through PROCOMPITE).

FIGURE 1 : Data sources used for the demand analysis

PRIMARY DATA SOURCES			
<b>PIURA REGION</b>			
9 Boat owners	Talara Province Máncora Los Órganos El Ñuro Cabo Blanco	Paita Province Yacila La Islilla Paita	Sechura Province Parachique Puerto Rico
4 Entrepreneurs (between merchants and processors)			
<b>AREQUIPA REGION</b>			
9 Boat owners	Caraveli Province Yauca Chala Atico	Camana Province Quilca	Islay Province Matarani
1 Processor			
<b>ANCASH REGION</b>			
11 Boat owners	Santa Province Coishco Puerto del Santa Chimbote	Huarmey Province Huarmey	Casma Province Casma La Gramita
4 Entrepreneurs			
1 Project Designer			
SECONDARY DATA SOURCES			
CENPAR 2012	ENEPA III (2015)	Research studies and fieldworks	

For the analysis of supply, we used different sources for private and public sector financing. For the private sector, we obtained data from the Financial Supervisor of Peru (Superintendencia de Banking, Insurance and AFP) about the loans granted to SMEs in the fisheries industry, accurate as of January 2019. However, this information does not allow a distinction to be drawn between marine fisheries and aquaculture. The lack of specificity in the information employed makes it difficult to undertake an analysis of the formal financing received by the artisanal and small-scale sea fisheries sector. Moreover, borrowers in this sector often apply for consumer rather than SME loans to finance working capital and other everyday operational needs. This means that to some extent the data provided does not reflect the true magnitude of formal financing in this sector.

In order to overcome these data limitations, we carried out interviews with representatives from the municipal savings and credit banks (CMACs) with the largest share of the artisanal and small-scale fisheries market in each of the three targeted regions: CMAC Arequipa (Arequipa); CMAC del Santa (Ancash); and CMAC Paita, CMAC Piura and CMAC Sullana (Piura). The capital provided by commercial banking is concentrated primarily on large and medium-size enterprises and corporations in the fisheries industry, whose operations harvest marine resources for industrial processing (Indirect Human Consumption, IHC) as well as for Direct Human Consumption (DHC). Other financial-system institutions, such as finance companies, rural savings and credit banks (CRACs) and SMEs development companies (EDPYMES) primarily target enterprises in the service and trade sectors.

In turn, for the public sector, we used data provided by the main public institutions that finance the fisheries industry: The National Program for Innovation in Fisheries and Aquaculture (PNIPA), the Fishing Development Fund (FONDEPES), local and regional governments (GOREs) through the Program to Support Productive Competition (PROCOMPITE) and the National Program for Innovation in Productivity and Competition (Innovate Peru). In addition, we interviewed representatives from organizations that help channel funds from institutional investors with an interest in providing their services to the artisanal fisheries sector. Finally, we interviewed various experts from the fisheries industry in Peru and certain specialists from the Ministry of Production (see Figure 2).

FIGURE 2 : Data sources used for the supply analysis

PRIMARY DATA SOURCES			
Financial system institutions	asbanc	CAJA PIURA	CajaPaita
	CAJA DEL SANTA	PEPCOMAC	CajaSullana
			caja arequipa
Public sector institutions	Innovate	FONDEPES	PROCOMPITE
Business accelerators / Incubators	NESST		
SECONDARY DATA SOURCES			
SBS statistics a enero del 2019	PNIPA databases (2017 - 2018)	FONDEPES databases (2018)	PROCOMPITE databases (2018)



## II. The problems of the artisanal and small-scale fisheries sector in Peru

**Peru is one of the richest countries in hydrobiological resources. Seven percent of the world's total fish captures are attributed to the country (Peru concentrates the third biggest wild-caught fishery landings in the world, and the biggest in Latin America). However, the fisheries sector is well-known for being the least productive activity within the Peruvian economy.** Considering that the fishing activity is a highly polarized sector, the productivity problem sharpens. The industrial fishing, mainly dedicated to IHC and accounted for 75% of the total extraction of resources<sup>4</sup>, is relatively efficient and financially sustainable (Peru is the top producer and exporter of fishmeal worldwide).

**On the other hand, the artisanal and small-scale fisheries, geared mainly toward DHC, are underproductive and overexploited (see Figure 3).** Just two out of 100 employees are engaged in fishing, which attests to the low levels of job creation in the sector. Moreover, the supply chain is underdeveloped; harvesting is the only stagey that has been developed to any real extent. This poses a problem for the sustainability of open-access fisheries (primarily artisanal, such as giant squid and mahi mahi) by creating incentives to increase fishing effort. Peru's artisanal fisheries sector lands more than 200 species of fish and shellfish each year, accounting for 15% to 20% of the total catch (almost 1 million tons) and almost 80% of the catch for DHC<sup>5</sup>. In turn, the lack of coordination between fishers, merchants and carriers, as well as the limited use of technology in primary and secondary processing, restrict access to domestic and international markets and the ability to promote harvested products.

**Another problem identified is the low level of education among fishers and boat owners (see Figure 3).** In 2015, approximately 50% of boat owners and 35% of fishers had completed secondary education. Moreover, that same year the bulk of the financing received by the sector (from formal and informal sources) was used for the acquisition of fishing inputs<sup>6</sup>. As a result, fishers are hindered by a short-term outlook, weak financial literacy and limited business management skills. Thus, to promote their activities, fishers are accustomed to state assistance, private-enterprise social responsibility programs and NGO support, and thus remain caught in a long-term state of subsistence.

**Although the artisanal sector is organized into local associations known as Artisanal Fisheries Social Organization (OSPAs), this model has proven deficiencies (see Figure 3).** Fishers do not come together with the purpose of engaging in economic activities, but to pursue certain labor demands. For this reason, the associations are more akin to labor unions. As such, the artisanal sector is highly fragmented, and its

associations are characterized for their institutional and organizational weakness. There are more than 1,500 OSPAs, some of them with fewer than five members—, which attests to the low levels of representation within the sector<sup>7</sup>. In this context, it is difficult to undertake commercial or developmental activities. Thus, there is a need to identify the level of organization required to develop initiatives that would help to foster associations with common interests.

**The artisanal sector has not made serious efforts to improve the social and environmental aspects of fishing (see Figure 3).** Because of the precarious conditions of most artisanal fisheries, fishers are more worried about making ends meet than about their impact on the marine ecosystem. This situation can also be explained in part by limited knowledge of fisheries regulations among boat owners and fishers. For instance, in Ancash, Arequipa and Piura, 79% of fishers have received no training on fisheries regulations, 60% have not been trained on good fishing practices and 95% do not have any knowledge of environmental sustainability. All this can be prevented by training fishers and boat owners on environmental practices, on-board primary processing of harvested resources, and handling and management of solid waste. In addition, fishing is an activity practiced overwhelmingly by men (almost 93%), and there have been no attempts to include women and young persons in any stage of the product value chain (except for processing). This has direct repercussions on generational renewal and the economic sustainability of fishing in each of the communities studied.

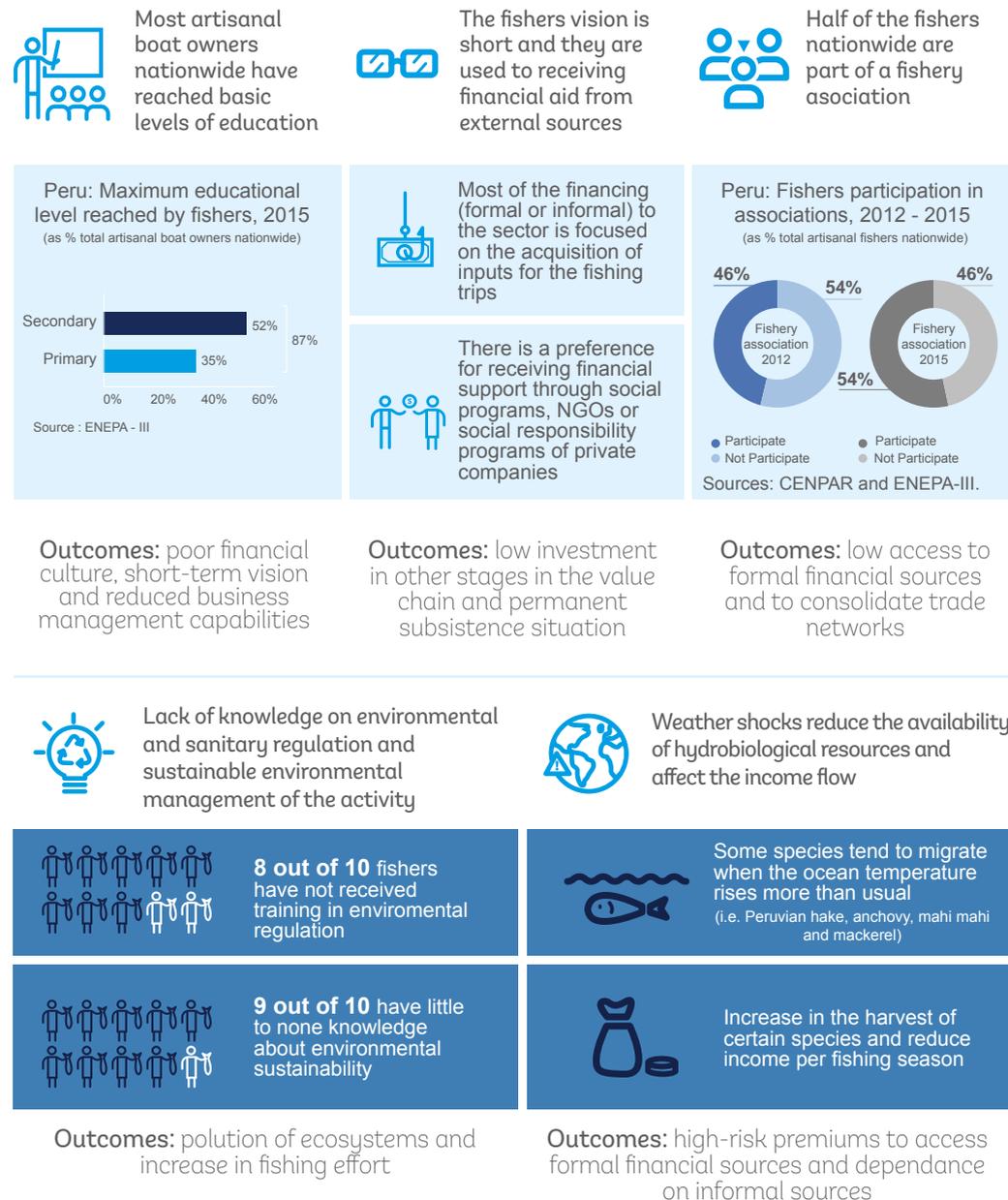
<sup>4</sup> Instituto Nacional de Estadística e Informática (2018). Base de datos de descomposición del PBI por sectores. Obtenido de: <https://www.inei.gob.pe>.

<sup>5</sup> Paredes, C. (2018). Mar muy rico, pescadores pobres y pescado muy caro. Diario Gestión.

<sup>6</sup> ENEPA-III

<sup>7</sup> Ministerio de la Producción (2018). Registro Nacional de Organizaciones Sociales de Pescadores Artesanales

**FIGURE 3 :** Environmental and human capital problems of the artisanal and small-scale fisheries sector



The climate events (such as El Niño or La Niña events) faced by the industry and their effects on resource availability impact the earnings of artisanal enterprises and boat owners throughout the year (see Figure 3). Certain species tend to migrate when the ocean temperatures are higher than usual. For example, anchovy, Peruvian hake, mahi mahi and jack mackerel are cold-water species, so anomalies that raise the temperature drive them away from coastal areas, reducing their availability and increasing the harvesting costs incurred by fishers and boat owners. This has repercussions on resource users' ability to meet financial obligations, increases the level of risk associated with accessing formal sources of capital and encourages them to resort to informal lenders.

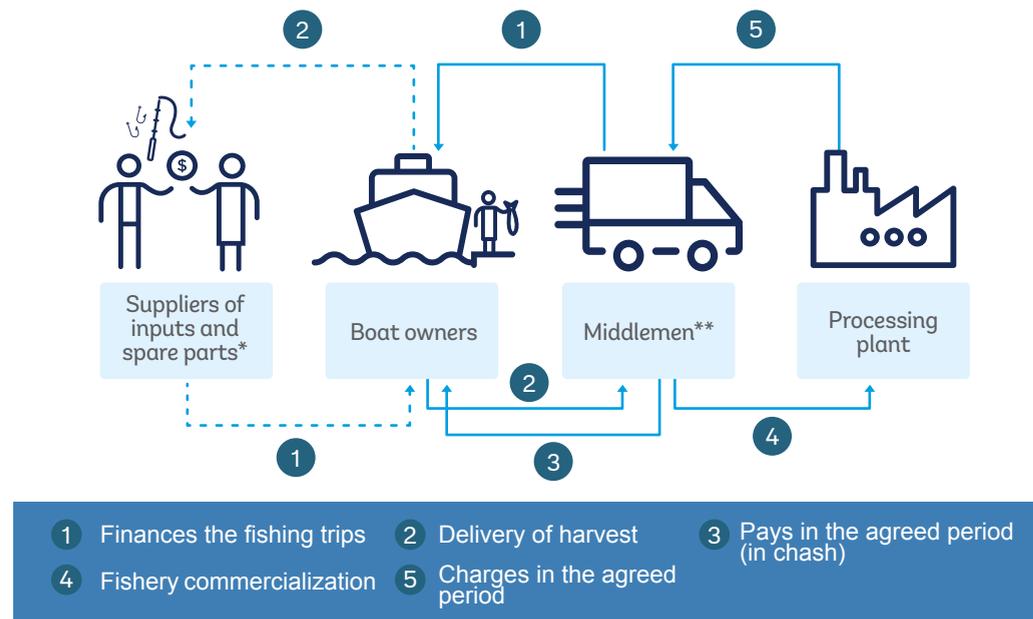
Informal lenders and financial “enablers” account for more than 85% of the sources of capital to which artisanal fishers have access<sup>8</sup>. Informal lenders provide capital at costs in excess of those usually offered by formal sources, but with flexible repayment periods. In turn, financial enablers lend money or inputs for working capital to economic agents, without stipulating conditions of formality (such as possession of fishing access rights or fisher’s cards), collateral (movable or immovable assets) or interest payments (see Figure 4).

Moreover, the lack of availability of suitable transportation to bring their products to market obliges fishers, boat owners and processors to turn to informal merchants, in some cases “invoice providers” (facturadores, in Spanish; see Figure 4)<sup>9</sup>. Merchants are responsible for providing access to products in a wholesale or retail market. Meanwhile, invoice providers sell products resulting from informal or illegal activities (such as vessels operating without fishing rights) to processors, and issue the necessary sales receipts. The relationships of trust established between resource users and the various informal agents causes the former to disregard the excessive costs involved (lower sales prices or higher rates of interest).

<sup>8</sup> Galarza, E., Kámiche, J. (2015) Pesca artesanal: oportunidades para el desarrollo regional.

<sup>9</sup> Amorós, S.; Gozzer, R., Melgar, V. & Rovegno, N. (2017). La pesquería del perico (Coryphaena hippurus) en el Perú: caracterización y análisis de la cadena productiva. Reporte Técnico. Lima.

FIGURE 4 : Intermediation and financing dynamics by informal sources



\* Includes the financial enablers and informal lenders  
 \*\* Includes the dealers and billers

Sources: Amorós, Gozzer & Melgar, V. (2017); and Clemente (2009)

The problem of persistent informality in the artisanal and small-scale sector also extends to non-possession by fishers, boat owners and processors of legal and tax certification documents. The vast majority of vessels and boat owners do not have the certificates necessary to vouch for the adequate harvesting of marine resources. According to CENPAR, although eight out of every ten vessels possess registration certificates, only three in ten are registered in the public records, and just four in ten hold national fishing access rights. Moreover, just 30% of active fishers possess a fisher’s card; that is 70% of Peru’s artisanal fleet fishes informally. More concerning, just 19% of artisanal vessels hold a valid sanitation protocol certificate (see Figure 5). This situation is due largely to artisanal fishing associations, members and enterprises lacking the resources needed to complete the certification procedures. Other impediments are the costs and time involved poor administrative practices, long distances to the public offices, and a lack of knowledge of the procedures for obtaining the documentation. Moreover, the general perception among members of the associations is that formalization confers no clear benefits.

FIGURE 5 : Persistent informality in the artisanal fisheries sector

ARTISANAL BOATS INFORMALITY\*



FISHERS INFORMALITY\*\*



\*Source: CENPAR  
 \*\*Source: ENEPA - III

The limited supervisory capabilities of the government precipitated widespread informality in the artisanal and small-scale sector, frequent changes to the “rules of play” (for instance, there were numerous campaigns aimed at formalizing enterprises that operate illegally, generating perverse incentives to increase fleet sizes and finance overfishing), and widespread disregard of current laws and regulations. Indeed, in 2018 the PRODUCE budget for fisheries and aquaculture was 502 million Peruvian soles (around US\$ 148 million<sup>10</sup>), of which only 0.9% (55 million Peruvian soles or US\$ 17 million<sup>11</sup>) was allocated to improving industry governance, planning and policy management (see Figure 6)<sup>12</sup>.

<sup>10</sup> Assuming an exchange rate of 3.29 Peruvian soles per US\$, as of July 2019.

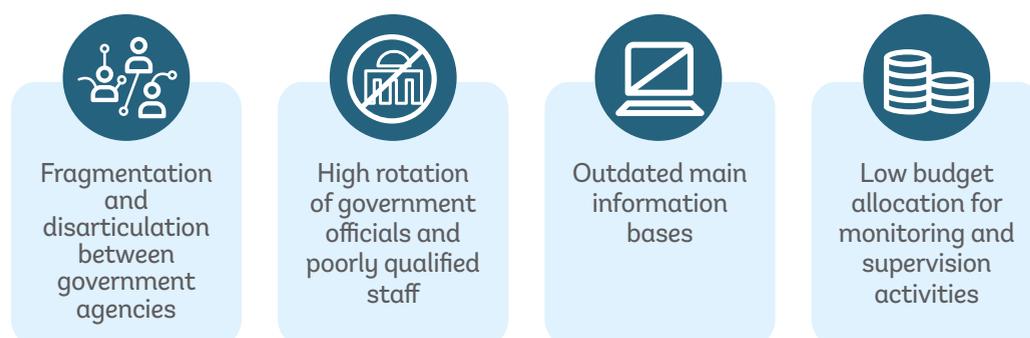
<sup>11</sup> Idem 10.

<sup>12</sup> MEF (2018). Sistema Integrado de Administración Financiera del Sector Público - SIAF.

**Prevalent noncompliance with legal, tax and fisheries legislation and the overdependence on informal sources of capital stands as evidence of institutional weakness and poor governance in the industry (characterized by a top-down approach).** Moreover, the industry is marked by high rotation of authorities (there have been nineteen ministers of production in the past fifteen years), a shortage of suitably trained officials (poor knowledge of technical, technological, sanitary and management issues), insufficient emphasis on ongoing professional training and the flight of qualified individuals<sup>13</sup>. In turn, there are high levels of fragmentation and a lack of cohesion between government bodies (for instance, there are currently six general directorates within the Vice-Ministry of Fisheries and Aquaculture, eight autonomous institutions, and three national programs), leading to excessive bureaucracy and duplication of efforts. Moreover, as has been mentioned, the main industry databases are not kept up to date. The only census of artisanal fisheries (CENPAR) was conducted in 2012, while the second-most useful tool, the ENEPA-III, dates to 2015, but cannot be used for statistical inference. In the case of the small-scale sector, there are no statistical sources that provide relevant data (see Figure 6).

**These identified problems have affected, over the years, the performance of some of the main artisanal and small-scale fisheries nationwide.** A study commanded by the World Bank in 2019 shows that the average performance of ten marine Peruvian fisheries selected is below the global mean value of 121 international fisheries evaluated through the Fishery Performance Indicators (FPIs) methodology, earlier<sup>14</sup>. This should not be a surprise, given the limited resources employed to monitor and regulate these fisheries (for example, the establishment of an individual quota regime per boat, the high percentage of IUU catch in the artisanal fisheries, among others). This is also explained by low enforcement capacity of current regulations (mostly, in terms of sanitation and environment sustainability, considering the lack of clear leadership from the public and private sector) and the low development of the value-chain (in terms of primary and secondary processing activities). Likewise, the fishers and processors do not have enough resources to strengthen their commercialization networks (for a comparative analysis between the three best performing fisheries and the three worst out of the ten selected fisheries evaluated in the World Bank report, see Figure 7). Hence, there are many opportunities for improvement that can be covered if there is a success in channeling financing from formal sources to specific needs identified by the demand (fishers, processors, managers, among others).

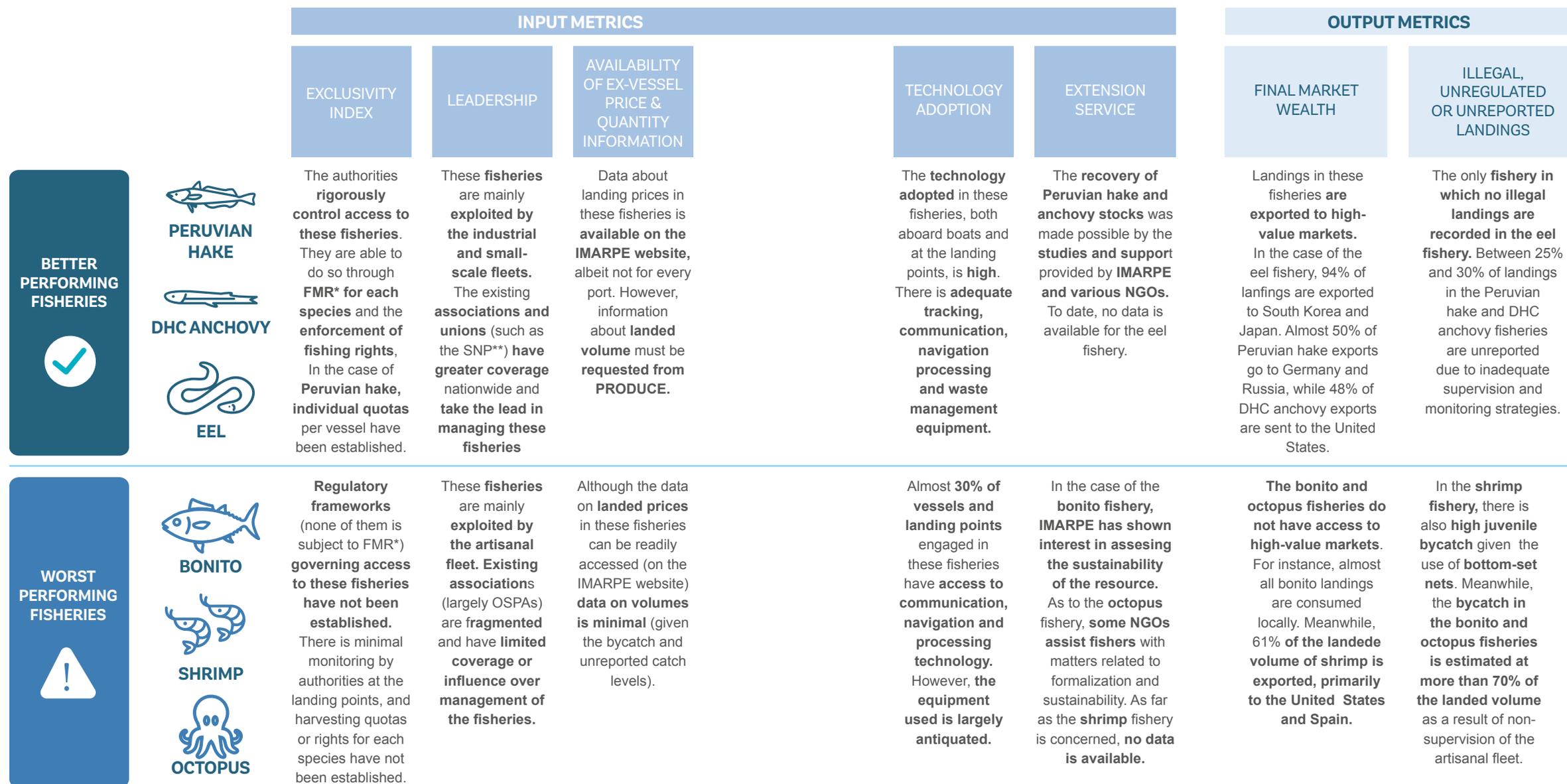
**FIGURE 6 :** Institutional instability and poor governance in the fishing sector



<sup>13</sup> Paredes, C (2016). Haciendo agua en la pesca. Diario Gestión.

<sup>14</sup> The ten marine Peruvian fisheries selected for the study were: giant squid, DHC anchoveta, horse mackerel and jack mackerel, Peruvian hake, mahi mahi, bonito, shrimp, tuna, eel, and octopus. The selection criteria took into account considered: (i) the volume of annual landings (in tons); (ii) the existence of Fisheries Management Regulations (FMR); (iii) the existence of a Fishery Improvement Project (FIP) for the fishery in question; (iv) the high potential impact on local communities; and (v) the existence of considerable room for improvement in the management of the fishery. See at: World Bank. (2019). Fishery Performance Indicators - Peruvian Coastal Fisheries. Washington D.C.: World Bank Group.

**FIGURE 7:** Better performing and worst performing fisheries: main input and output metrics in the FPI methodology



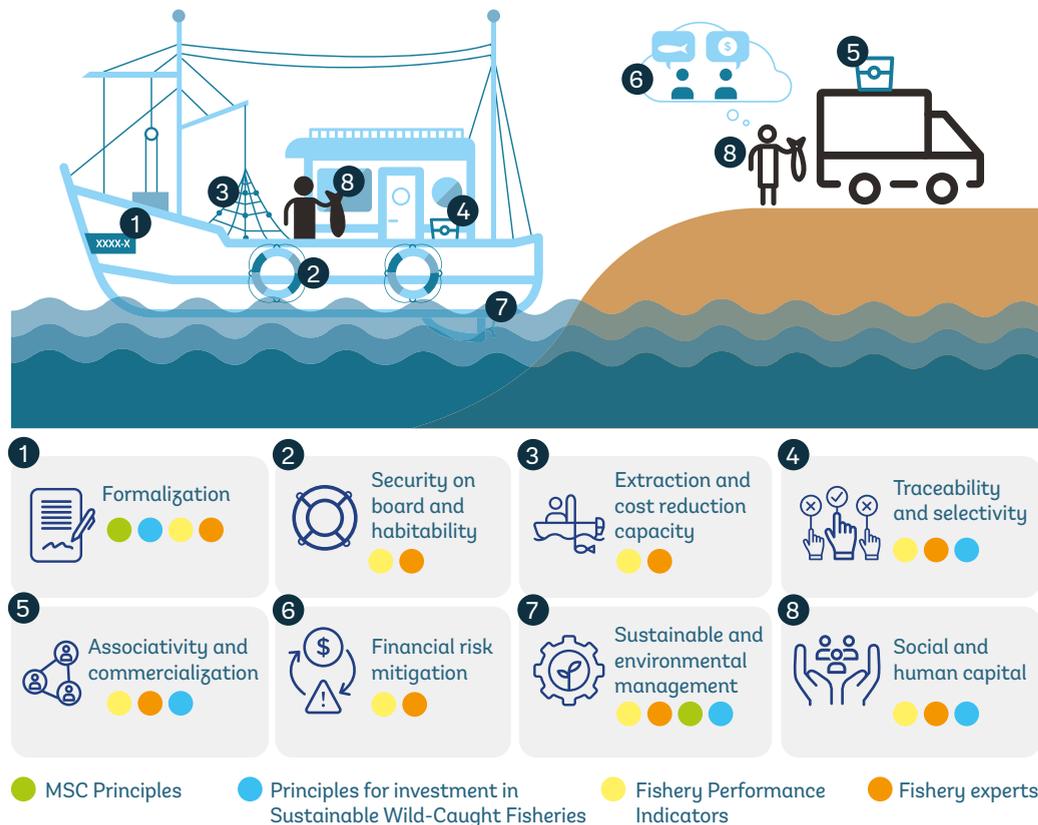
\* Fisheries Management Regulations or Reglamento de Ordenamiento Pesquero, in Spanish.  
 \*\* National Fishery Society or Sociedad Nacional de Pesquería, in Spanish.  
 Source: PRODUCE, INEI, IMARPE, World Bank, experts' opinions and field work.



### III. Evaluation framework

We conducted this analysis within a general evaluation framework based on the review of various international principles, indicators on sustainable fisheries, and the recommendations of the fishery experts interviewed. This evaluation framework is made up of eight dimensions, which formed the basis of our assessment of the sustainability of artisanal and small-scale fisheries in Peru (see Figure 8). By way of this comprehensive assessment, we have identified a series of financing and training opportunities for inclusion in the investment readiness assessments to be drafted by fishers, enterprises and associations interested in participating in the Peru: Coastal Fisheries Initiative - Challenge Fund (Peru CFI-CF). It also allows us to identify the barriers, limitations and restrictions in the way of providing or receiving sustainable and environmentally-friendly financing. The eight dimensions are:

**FIGURE 8 :** Selected dimensions to assess the sustainability of the artisanal and small-scale fisheries sector



Source: Marine Stewardship Council (2014), Environmental Defense Fund (2018), Anderson et al (2015)

- 1 FORMALIZATION:** analyzes the capability or willingness of the selected fishers or association to comply with current fisheries regulations (fisher’s card/seaman’s book, registration certificate, certificate of technical sanitation protocol, harvest rights) and the corresponding national tax regimes.
- 2 SECURITY ON BOARD AND HABITABILITY:** analyzes whether the strategies implemented by fishers are sufficient for improving safety aboard their vessels (for example, the use of extinguishers, safety equipment, first aid kits, foghorns, lifejackets, accident insurance, etc.) as well as the provision of suitable spaces for the fulfillment of basic needs (food, rest and sanitation, among others<sup>15</sup>). This dimension also analyzes the availability and possession of different forms of insurance coverage against the various types of risks faced during fishing (accident insurance, weather insurance, health insurance, among others).
- 3 EXTRACTION AND COST REDUCTION CAPACITY:** reviews the type and use of technology (technical resources, tools and equipment) used in consideration of efficient harvesting of marine resources and reducing the costs of the enterprise or association. This dimension also incorporates aspects that are exogenous to the enterprise or organizations.
- 4 TRACEABILITY AND SELECTIVITY:** assesses the implementation of registration, selection, monitoring and tracking technologies or systems along the supply chain (from harvesting to final sale). These systems allow the legal origins of fisheries to be accredited and fishing data to be obtained in order to foster more effective management and maximize the income obtained by fishers (through higher prices).
- 5 ASSOCIATIVITY AND COMMERCIALIZATION:** assesses the commercial links between the different agents involved in an association’s supply chain (fisher, intermediary, carrier, retailer, among others) with a view to reducing the level of intermediation and enabling the introduction of products to new markets. Moreover, the dimension assesses an association’s participation in the community or its capacity for institutional organization.
- 6 FINANCIAL RISK MITIGATION:** analyzes the capacity of enterprises or associations to mitigate price volatility and the shocks faced by the industry (weather events, temporary prohibitions on resource harvesting or closures, and so on). Moreover, the dimension assesses the capacity of enterprises to comply with the

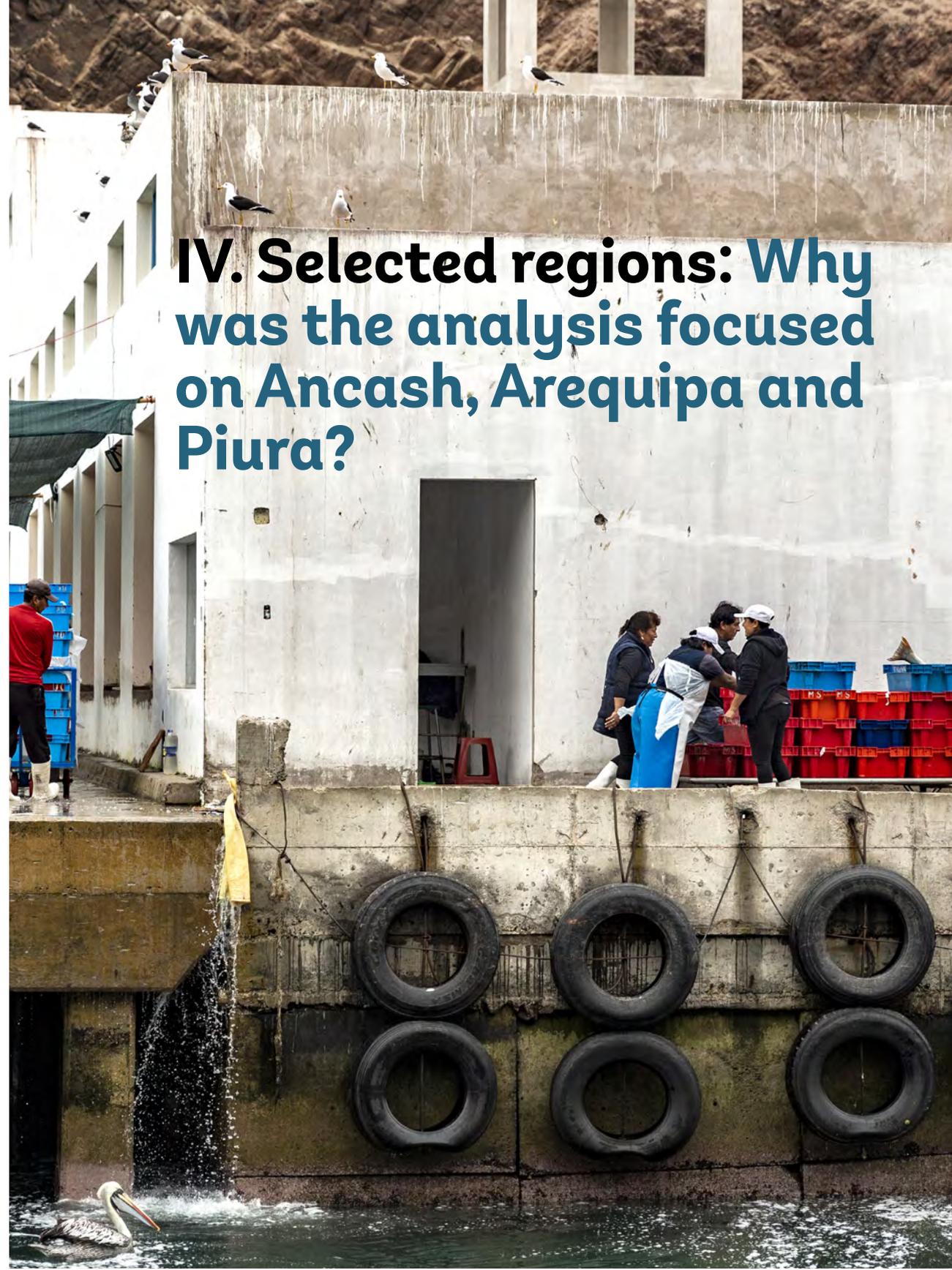
## EVALUATION FRAMEWORK

requirements of formal financial institutions and public funds for providing capital (for example, down payments, debt defaults). In addition, there are financial risks linked to sustainable management of the industry, associated with actions beyond the control of artisanal and small-scale enterprises and associations (governance, regulations, and capacity of public-sector authorities).

- 7 SUSTAINABLE AND ENVIRONMENTAL MANAGEMENT:** analyzes the strategies implemented by fishers or enterprises to mitigate or minimize the environmental impact of product harvesting, marketing, or final disposal. Moreover, the dimension reviews the willingness and interest of participants to implement these measures in the short- and medium-term. In this context, we review compliance with current environmental regulations to ascertain the level of commitment to environmental care, as well as finding evidence of the risks associated with poor governance and weak institutions in the industry.
- 8 SOCIAL AND HUMAN CAPITAL:** assesses the capabilities of resource users (education level, experience, training received, among other areas) and the strategies implemented to promote the adequate participation of young persons and women within the different stages of the fishing supply chain. Moreover, we seek to identify whether fishers have the entrepreneurial spirit, vision and values that will allow them to manage comprehensive projects to improve the sustainability of their activities.

Since the Peru: Coastal Fisheries Initiative - Challenge Fund (Peru CFI-CF) places emphasis on environmental and social matters, we have identified strategies, investment opportunities and plans to be developed with a view to improving the environmental sustainability of fishing and strengthening the role of women and young fishers working within the supply chain.

<sup>15</sup> In accordance with Convention No. 188 of the International Labor Organization.



## IV. Selected regions: Why was the analysis focused on Ancash, Arequipa and Piura?

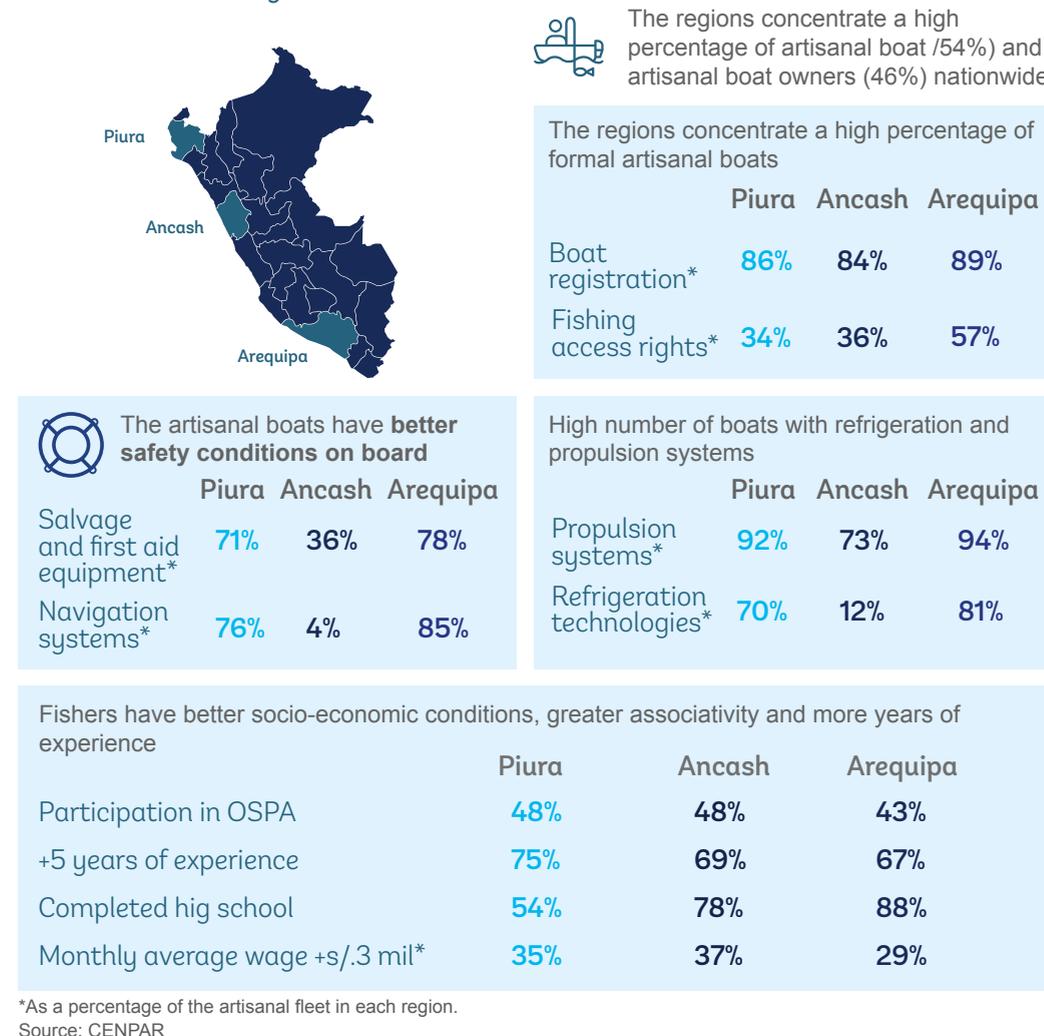
## SELECTED REGIONS: WHY WAS THE ANALYSIS FOCUSED ON ANCASH, AREQUIPA AND PIURA?

The first aspect we took into account in the selection of regions was the number of vessels and boat owners in each. Lima (which includes Callao), Piura, Arequipa and Ancash are the coastal regions with the greatest number of artisanal boat owners and vessels. Piura is the region with the largest number of artisanal vessels (32% of the nationwide total), followed by Lima and Callao, Ancash, and Arequipa. Meanwhile, the region with the largest number of artisanal boat owners is Lima and Callao (22% of the nationwide total), followed by Piura, Ancash, and Arequipa<sup>16</sup>.

Given the significant presence of the Peruvian state in Lima and Callao (where the headquarters of the public bodies connected with the industry are located) and the high penetration of the financial system there (where almost 40% of all branches in the Peruvian financial system are located<sup>17</sup>), this region was not selected for the analysis. This is because the associations involved in artisanal fisheries in Lima and Callao have more opportunities to access formal sources of capital (both public and private) and better prospects of accessing technical training and assistance.

A second aspect we assessed were the socioeconomic and technical characteristics of the artisanal fishers in these regions. We selected the regions with the best outcomes across various metrics: (i) possession of a registration certificate; (ii) possession of harvest rights; (iii) use of safety equipment aboard the vessel; (iv) use of propulsion systems; (v) use of cold storage systems (for example, insulated holds); (vi) use of GPS; (vii) participation by fishers in an OSPA; (viii) average income or earnings per vessel; (ix) years of experience of the artisanal boat owner; and (x) level of education of the artisanal boat owner. These aspects are shown below in **Figure 9**.

FIGURE 9: Selected regions



As noted, the regions we selected are located in the north (Piura), center (Ancash) and south (Arequipa) of the country. This ensures wider coverage, allowing us to gather the socioeconomic characteristics of resource users operating in the north, center, and south of the Peruvian coast in order to assess their investment opportunities.

<sup>16</sup> Instituto del Mar del Perú (2018). Tercera Encuesta Estructural de la Pesquería Artesanal en el litoral peruano. Resultados generales.

<sup>17</sup> This data includes branches of all types of institutions in the financial system: commercial banks, finance companies, municipal savings and credit banks, rural banks and EDPYMES. Information accurate as of September 2017. Superintendencia de Banca y Seguros. See at: <http://www.sbs.gob.pe/app/pp/seriesHistoricas2/paso1.aspx>.



**V. Demand analysis:  
Investment and/or  
training opportunities  
for the artisanal and  
small-scale fishERIES  
sector**

Through workshops, interviews with resource users in the sector and statistical evidence, we have identified the following investment and/or training opportunities for fishers and processors in Ancash, Arequipa and Piura across the eight dimensions.



### FORMALIZATION

**Fishers do not see formalization as a desirable state. Past formalization campaigns resulted only in excessive increases in fleet sizes and in fishing effort.** The benefits that formalization can bring are either not perceived (and therefore not worth the cost) or not sufficiently known. Moreover, fishers do not have the resources necessary to assume the costs of the formalization processes. As a result of the limited possession of documents certifying formality, fishers, boat owners and processors are unable to access formal sources of financing (for example, due to the lack of movable and immovable assets for use as collateral). Therefore, there is great scope for executing awareness-raising campaigns about the benefits of formality (higher income levels, access to new markets, among others) and to finance the acquisition of tax and legal documents that certify the formality of an operation. Our study also points to the need to provide training on: (i) registering assets with the public registry office (SUNARP); (ii) attaining a tax ID (RUC), (iii) certifying a vessel's gross registered tonnage; and (iv) gaining approval of vessel design drawings.



### SECURITY ON BOARD AND HABITABILITY

**To date, government emphasis on onboard safety has focused on the mandatory acquisition of accident insurance (SOPA).** There are few incentives for boat owners to acquire insurance plans for their crew: they end up paying their crewmembers' monthly insurance fee, and coverage is not sufficient to offset the high cost of acquisition. As to safety on board, two of the main concerns are the age of the artisanal fleet and the lack of communication and navigation systems (GPS) on board. For instance, the General Directorate of Captaincy and Coast Guard (DICAPI), in charge of monitoring the fishing trips and the security of the fleets, cannot give aid to broken boats. Moreover, no financing is provided for the provision of training on the use of safety equipment. The fishers interviewed are interested in acquiring: (i) communication equipment; (ii) life-saving equipment; (iii) tools for boat maintenance, (iv) navigation systems, and (v) health and life insurance and retirement pensions. In addition, we recommend funding for training on the use

of safety, navigation and communication equipment (primarily for young fishers in fisheries communities with ageing populations).



### EXTRACTION AND COST REDUCTION CAPACITY

**Changing climate conditions have shifted and reduced the availability of marine biological resources, increasing the average duration of fishing trips, raising the main costs of fishing (provisions, ice, fuel and working capital in general).** For instance, repairs to propulsion systems can cost between 10,000 and 20,000 Peruvian soles (between US\$ 3,000 and US\$ 6,000<sup>18</sup>), while fuel costs can reach 3,000 Peruvian soles (around US\$ 900<sup>19</sup>), depending on the resource being fished (for instance, fishing trips for giant squid can last for as much as 20 days, with costs nearing the upper level of this calculation). As such, artisanal fishers feel that they lack the economic support to overcome the problems they encounter while fishing. Three out of every ten fishers state that to address this problem, more loans must be made available to the sector. Meanwhile, two out of every ten fishers suggest building and upgrading fishing infrastructure (essentially, those in public use such as artisanal landing sites or DPAs in Spanish) to improve harvesting capacity. Spending more time at sea also creates the need for better onboard cooling technologies, and for fiberglass hulls (mostly in the case of the artisanal sector). Because of the lack of suitable cooling systems, vessels tend to make excessive and inefficient use of ice. This creates strong incentives for fishers to invest in: (i) replacing wooden hulls with fiberglass ones (only 1.5% of hulls are currently fiberglass); (ii) electric propulsion systems; (iii) better cooling technologies; and (iv) renewing fishing gear.



### TRACEABILITY AND SELECTIVITY

**Traceability is a key element in increasing product value in the fisheries industry. It reduces logistics costs by way of product monitoring throughout the supply chain<sup>20</sup>.** However, in Peru traceability practices are only used in the industrial fisheries sector (mainly in IHC anchovy and to a lesser extent in DHC anchovy<sup>21</sup>). Artisanal fisheries have neither the technology nor the know-how. Thus, there is no product tracking between landing and the final

<sup>20</sup> Olsen, P. y Borit, M. (2013). How to define traceability. Trends in Food Science & Technology. 29. 142–150. 10.1016/j.tifs.2012.10.003.

<sup>21</sup> Future of Fish (2014). Getting There from Here: A Guide for Companies Implementing Seafood Supply-Chain Traceability Technology.

point of sale at the level of each artisanal vessel. Moreover, the public statistical databases do not contain indicators on fishers' use of traceability systems. To address this situation, some NGOs (such as WWF Peru and SFT) have conducted traceability studies and created cell-phone apps for use by fishers. On the other hand, selectivity practices in artisanal fishery are employed to moderate degrees (for example, the use of pots for fishing giant squid), while there is little training provided (especially to young persons engaged in fishing) on the use of different types of fishing gear for each fishery. Thus, there is some evidence that the resource users in the selected regions do consider it important to finance, implement and receive training on electronic and manual traceability systems, and to acquire better fishing gear for selectivity. Moreover, there is a need to provide funds so that carriers and processors linked to the artisanal and small-scale sector can access documents to certify their operations (for instance, artisanal fisheries certification of origin) so as to promote product traceability<sup>23</sup>.



### ASSOCIATIVITY AND COMMERCIALIZATION

**Despite the benefits that fishers would stand to obtain from joining fisher associations, most undervalue them or are not even aware of their existence.** The main incentives for membership are greater economic support from the association in case of an emergency or contingency, and the ability to put forward social demands (since many associations operate more like labor unions). As an example of the former, OSPAs tend to support their fisher members and their families with burial, healthcare and accident costs. Moreover, membership of an association opens up collective options with which to respond to the actions of state institutions or private enterprises, obtain a guarantee to apply for a loan through formal financing channels, and participate in certain public programs (for instance, the PNIPA and PROCOMPITE competitive funds). However, to date there is little evidence of collaboration between members of industry associations (limited attendance of assemblies and training, and minimal commitment to paying membership fees established by associations). Furthermore, the association programs developed by the government have not considered the possibility of articulate agents from different stages in the production chain, as a strategy to reduce the informal intermediation.

**On the other hand, fishers and boat owners are highly dependent on**

**intermediaries for the marketing of their products, which they recognize as harmful but ultimately accept in order to guarantee sales.** Most fishers limit their role to harvesting because of their lack of transportation equipment, and distribution and marketing infrastructure. There are some incentives to decentralize marketing, but none to embrace collaboration. Therefore, the main investment needs in this dimension are related to: (i) training on how to create an association (e.g. an OSPAs) and to identify marketing opportunities as an association; (ii) post-harvest cooling technologies; (iii) primary-processing equipment; and (iv) trucks with internal refrigeration chambers.



### FINANCIAL RISK MITIGATION

**The lack of collateral is one of the main limitations to financial risk mitigation. Fishers and processors also exhibit low income predictability, almost non-existent savings or financial literacy and misconceptions about the true costs of informal financing (usually higher than that from formal sources).** In addition, almost 80% of those interviewed in the selected regions do not engage in any other economic activity, making it difficult for them to count on a sustainable flow of income. Moreover, access to capital also depends on the applicant's credit history. Loans were used for almost 40% of the vessels purchased by artisanal fishers nationwide (whether new or used). Almost 52% of the vessels operating in Piura were acquired by way of loans, followed by Arequipa (39%) and Ancash (30%). For this reason, formal financial institutions state that artisanal fishers in Peru represent one of the riskiest categories of debtor (and are thus subject to very high interest rates and/or down payments). To address this situation, fishers are very interested in receiving: (i) training on financial analysis of investment options and lending opportunities; and (ii) tutoring in finance and business accounting.



### SUSTAINABLE AND ENVIRONMENTAL MANAGEMENT

**Among fishers, environmental issues are not regarded as a necessity or an immediate concern.** For instance, less than 20% of artisanal vessels hold a sanitation protocol certificate, which ensures the adequate vessel measurements and fishing gear in order to prevent damage to the ecosystem. Sixty percent of fishers from the selected regions have not been trained on good fishing practices and 95% do not have any knowledge on environmental sustainability. In addition, there is a lack of certification of sanitation at

## DEMAND ANALYSIS: INVESTMENT AND/OR TRAINING OPPORTUNITIES FOR THE ARTISANAL AND SMALL-SCALE FISHING SECTOR

landing points (less than 50% of the landing points in the selected regions provide waste collection service). The poor sanitary practices during primary processing on board the vessels and at the landing points reduce the sales value of the harvested products and, in terms of income, encourage greater resource harvesting to maintain income levels. Therefore, the public sector has an important role in promoting environmental sustainability practices within the fisheries industry, through: (i) coaching on how to obtain a sanitation protocol certificate; (ii) construction of landing infrastructure that complies with the standards of the competent environmental authority (SANIPES); and (iii) training on environmental management and regulations on the sustainable management of marine biological resources and waste.



### SOCIAL AND HUMAN CAPITAL

The low level of education among boat owners and the limited involvement of young persons (those below 30 years of age) in fishing are two of the main reasons for the lack of long-term vision, the low entrepreneurial capabilities, the over-reliance on the aid of NGOs, private firms and government institutions, or on the “support” of informal agents, and inadequate generational renewal in the industry. Women and young persons have very low rates of participation in the harvesting process. Nationwide, less than 7% of boatowners are women, and only 5% are less than 30 years old. In the case of young persons, their lack of participation is related to inexperience in the industry and a parental preference for pursuing technical or higher education. On the other hand, although women are more active at other stages, their participation is still low, mostly because of prevailing cultural barriers: they account for 22% of those engaged in primary processing activities, 11% of secondary processing and 40% of marketing activities. Likewise, women also participate in managing the accounts of the various fishing associations and as representatives of their husbands or families on the boards of directors established by fisheries communities or associations. Nonetheless, there are several opportunities for women and young persons to become involved at different stages of the supply chain, especially where technical expertise is required and where more value is created. Therefore, the most important investment needs in this field are: (i) to strengthen the participation of women and young persons in the supply chain (especially in product marketing and other post-harvest activities); and (ii) to provide training on different aspect that might enhance the human capital of enterprises (basic finance, bookkeeping, relevant legislation, among others).



## VI. Supply analysis: Current available funding sources (private and public) for the artisanal and small- scale fisheries sector



## FORMAL PRIVATE SUPPLY OF FUNDING

### Fishing is one of the industries that is most underserved by the financial system.

Borrowers from the fisheries industry account for less than 0.9% of all borrowers in the financial sector and less than 1% of the amount granted to the business sector. The types of financial institution in which loans to the fisheries industry account for the largest share of their portfolio are rural banks (1%), commercial banks (0.7%) and CMACs (0.6%). However, only a small percentage of the total financing allocated to the fisheries industry is granted to artisanal and small-scale operations<sup>24</sup>.

### The type of financial institution that lends the most to the artisanal and small-scale sector are CMACs.

Within this group, those with the biggest market share in the selected regions are CMAC Arequipa (Arequipa); CMAC del Santa (Ancash); and CMAC Paita, CMAC Piura and CMAC Sullana (Piura). In Ancash, some 61% of the CMAC del Santa's come from this sector (48 borrowers), amounting to a total of 400,000 Peruvian soles in loans placed (around US\$ 121,000<sup>25</sup>). In Arequipa, 83% of the borrowers affiliated with CMAC Arequipa pertain to the sector (668 borrowers), totaling 8.7 million Peruvian soles (around US\$ 2.6 million<sup>26</sup>) in loans placed. Finally, in the region of Piura, three CMACs account for most of the loans granted to this sector: CMAC Sullana, CMAC Piura and CMAC Paita. Together, these three financiers encompass 99% of borrowers<sup>27</sup>.

### Formal financing channels are little used by artisanal and small-scale fishers because of the high down payments (depending on the amount of the loan, they can range between 10% and 20%), higher interest rates (above 30%), and no flexibility in repayments (mostly monthly installments).

Because of this, it is common practice for fishers to apply for a consumer loan instead of a direct loan (in order to access a lower interest rate), or to look for an informal agent with less stringent requirements. The amounts issued in loans can range from 500 in Peruvian soles (around US\$ 150<sup>28</sup>) primarily to finance working capital) to 300,000 Peruvian soles (around US\$ 91,000<sup>29</sup>), and average 30,000 in Peruvian soles (around US\$ 9,000<sup>30</sup>), with a repayment period from one year to four years.

### Some CMACs consider other strategies to mitigate the risk of defaulting on repayments, and to facilitate access by the industry.

One strategy pursued at present is the use of different terms according to the intended purpose of the financing sought: working capital or fixed assets. For instance, to finance working capital (for the purchase of ice, fuel, provisions for fishing trips, etc.) repayment periods can be

up to two years, while for fixed assets (new vessels, repairs, equipment, fishing gear, cooling systems, etc.), periods can extend to four years. Another strategy employed is to approve repayment through quarterly rather than monthly installments. Thus, borrowers have longer in which to generate the income needed to service a debt.

### CMAC requirements for SME loans for formalization purposes differ depending on whether the applicant is an enterprise (primarily boat owners) or an individual (artisanal fishers, who may or may not possess their own boat).

Enterprises are asked to provide: (i) the company constitution certificate and certificate of ownership of the vessel; (ii) their active tax ID; (iii) certificate of vessel registration; and (iv) harvest rights. In turn, individuals must submit: (i) their national ID card; and (ii) a copy of an electricity or water bill. For this latter category, the CMAC Piura and Sullana require the submission of a fisher's card and a seaman's book.

### CMACs in the selected regions have a higher number of requirements associated with the "mitigation of financial risks" dimension.

The five CMACs interviewed all require copies of vessel sale contracts and receipts for any engines or propulsion systems purchased. In addition to these requirements, CMAC Paita and CMAC also ask for movable or immovable assets as collateral (for example, where applicants are private individuals, CMAC Paita requests a mortgage) and accounting ledgers or income and expense records. Moreover, to mitigate financial risk, these institutions request photographs of the applicant's vessel, a clean criminal record, and their credit history. Also, applicants are expected to have a "normal" risk classification in the financial system, which allows them to obtain better interest rates and loans of greater value.

### Usually, the financing granted by the CMACs from the selected regions is invested in working capital (for example, the purchase of ice, toolboxes, fuel, etc.) and in fixed assets of four possible types: (i) diesel propulsion systems; (ii) insulated holds; (iii) changes of fishing gear; or (iv) construction of wooden vessels.

However, such investment does nothing to improve the sustainability of the resources, nor to promote fisher entrepreneurship or training on issues related to fishery sustainability.

<sup>24</sup> See at: <http://www.sbs.gob.pe/>.

<sup>25</sup> Idem 10.

<sup>26</sup> Idem 10.

<sup>27</sup> Idem 17.

<sup>28</sup> Idem 10.

<sup>29</sup> Idem 10.

<sup>30</sup> Idem 10.

The CMACs from the selected regions are interested in financing projects categorized under the dimensions of “safety and habitability”; “sustainable environmental management”; and “formalization”. Thus, all CMACs stated an interest in providing financing for fishers to obtain a registration certificate and/or harvest rights, and for the provision of training to enterprises, OSPAs, cooperatives and unions on finances, accounting, project management and other topics. In addition, through the Green Microcredit Program initiated by the FEPCMAC, financing is provided for the acquisition of waste management systems, sustainable energy sources (solar panels), and electric or natural-gas propulsion systems.



#### FORMAL PUBLIC PROVIDERS OF FINANCING

The main formal public providers of financing are PNIPA, PROCOMPITE and FONDEPES. The first two grant funds under a co-finance scheme, while the third provides loans to the artisanal sector at lower interest rates (depending on the size of the loan) and lower down payments (equal to or less than 10% of the debt) than the private sector. Projects that receive financing equivalent to less than four tax units are assigned an annual effective interest rate of 3%. Otherwise, the interest rate will be 7%. Repayments may be made in 36 annual installments, with a two-month grace period. However, unlike the CMACs, FONDEPES does not operate a strategy of accepting debt repayments in quarterly installments, or of requesting a down payment only in the case of loans of high value<sup>31</sup>.

Neither PROCOMPITE nor PNIPA require applicants to submit formal documentation related to their fishing operations. However, they do ask for documents that certify the legal and tax formality of their enterprises (active tax ID, company constitution certificate and no previous debt defaults). PROCOMPITE draws funds from 10% of the budget of each regional government, and its scope is not limited to the fisheries industry. This initiative asks applicants to co-finance between 20% and 50% of the total investment amount, depending on the category (A or B). In category A, the investment amounts can be as much as 200,000 Peruvian soles (around US\$ 60,000<sup>32</sup>), and up to 80% of the total investment can be co-financed. In turn, category B includes projects with investment amounts of between 200,000 and 1 million Peruvian soles (between US\$ 60,000 and US\$ 303,000<sup>33</sup>), and 50% of the total investment can be co-financed<sup>34</sup>. PNIPA, on the other hand, has four grant funds (all of them aimed at the fisheries and aquaculture industries) across different areas: applied research, adaptive research, technological adaptability, and training<sup>35</sup>. The required co-finance in this case is 20%.

To apply for either of the two programs (PNIPA or PROCOMPITE), applicants must not have debt defaults with the Peruvian tax agency (SUNAT), must have a favorable credit rating in the financial system, and must submit as collateral the receipt/purchase order corresponding to the equipment they wish to finance.

Likewise, both PROCOMPITE and PNIPA require applicants to be members of an association. In the case of PROCOMPITE, for projects classified under category A, the participating association must have a minimum of 25 members (whether individuals or enterprises). If the participating association is composed of individuals, a board of directors must be formed, represented by a president, a treasurer and a secretary. For projects classified under category B, the association must be made up of a minimum of two enterprises, neither of which are required to have a minimum number of employees<sup>36</sup>.

In turn, to participate in PNIPA funds, applicants must establish a Strategic Alliance (SA). A SA can be composed of three types of entities: Proposing Entity (PE); Associated Entity (AE); or Collaborating Entity (CE). A PE is a producing agent that requires or provides technical, organizational or commercial innovation services. In addition, the PE will take the lead in the nomination of a SA. Meanwhile, the AE is the counterparty in respect of the services required or provided by the PE. Thus, if the PE is providing fishing innovation services (for example, as a consultancy or academic institution), the AE will be the party in need of these services (for example, as a fishers' association or cooperative), or vice versa. Finally, the CE is the agent that provides financial, social or logistical support. Under this framework, the PNIPA aims to foster cooperation between the different agents involved in the industry (for example, academic institutions, the public and private sectors) to bridge the gaps between supply and demand<sup>37</sup>.

The requirements of FONDEPES focus on the dimensions of formalization, security and habitability; mitigation of financial risk; and human and social capital. FONDEPES has different requirements depending on whether an applicant is an enterprise or an individual. Enterprises are asked to submit their company constitution certificate, active tax ID, vessel registration certificate and harvest rights. Meanwhile,

<sup>31</sup> See at: <https://www.fondepes.gob.pe/Portal2018/index.php/credito-pesca>.

<sup>32</sup> Idem 10.

<sup>33</sup> Idem 10.

<sup>34</sup> See at:

[http://www.mef.gob.pe/contenidos/inv\\_publica/docs/procompite/2016/Preguntas\\_Frecuentes\\_de\\_PROCOMPITE\\_2.pdf](http://www.mef.gob.pe/contenidos/inv_publica/docs/procompite/2016/Preguntas_Frecuentes_de_PROCOMPITE_2.pdf).

<sup>35</sup> PNIPA (2019). Bases de concursos SIA, SIADE, SEREX y SFOCA.

<sup>36</sup> Idem 34

individuals must present their national ID, a utility bill (water, electricity or other), fisher's card, seaman's book, and a construction certificate or, failing that, the certificate of approval of the vessel design drawing by the DICAPI<sup>38</sup>.

**The investment opportunities that have received financing through PROCOMPITE and FONDEPES are concentrated in the “harvesting and cost-reduction capacity” dimension.** Around 60% of the total amount granted is intended for the acquisition of diesel propulsion and cooling systems (for example, isothermal chambers and hold insulation). In turn, approximately 20% is used to finance fishing gear (mainly seine and trammel nets). Finally, 10% goes toward the acquisition of communication and navigation equipment and between 5% and 10% is earmarked for technical training and propulsion system repairs.

**For its part, PNIPA prioritizes financing across the following four dimensions: safety and habitability; harvesting and cost-reduction capacity; traceability and selectivity; and marketing and collaboration.** Across these dimensions, PNIPA's financing is concentrated on the post-harvesting stage and includes implementation of traceability systems, as well a user training on selective fishing and sanitary resource processing. Likewise, PNIPA has been financing projects to improve marketing and collaboration, reduce informal financial intermediation and develop the processing of harvested resources (for example, canning and freezing).

**There is a surprising lack of interest from PROCOMPITE, FONDEPES and CMAC in financing initiatives within the “traceability and selectivity” dimension.** In addition, none of the entities interviewed have shown interest in providing financing for the acquisition of SOPA insurance, despite this being an important requirement under current legislation for authorizing a vessel's operations and improving safety conditions. It is also a concern that investment is not focused on improving vessel habitability. In the selected regions, inspections of artisanal and small-scale fisheries vessels have revealed many cases of crew members sleeping in the same space used for storing the catch, or where sanitation facilities are located. Likewise, there is little financing for the purchase of life-saving equipment.



## **INCUBATOR/BUSINESS ACCELERATORS FINANCING**

**Some other institutions, which make high-impact investments in industries unrelated to fishing, might be interested in providing financing to the fisheries industry.** For instance, NESsT is an international business incubator and accelerator that has been involved in social and environmental capital investments in Peru for ten years (having developed ten ventures to date). In its role as an incubator, NESsT helps develop investment ideas of potential entrepreneurs through advice and workshops (pre-incubation stage); then, it reviews and monitors the implementation, operation and growth of the startup (incubation stage); finally, it provides advice for ongoing improvement (post-incubation stage). In turn, it also acts as a business accelerator by helping startups channel funding (mainly through donations) and obtain high returns in the longer term.

**The average amounts received by the ventures supported by NESsT range from US\$50,000 to US\$500,000.** However, investors interested in financing social and environmental ventures tend to look for projects exceeding US\$200,000, on average. In this regard, NESsT points out that the low amounts of investment requested by artisanal fishing enterprises are a barrier to the entry of institutional investors to the industry, despite their interest in exploring it.

<sup>37</sup> Idem 34.

<sup>38</sup> Idem 35.



## VII. Barriers and limitations identified

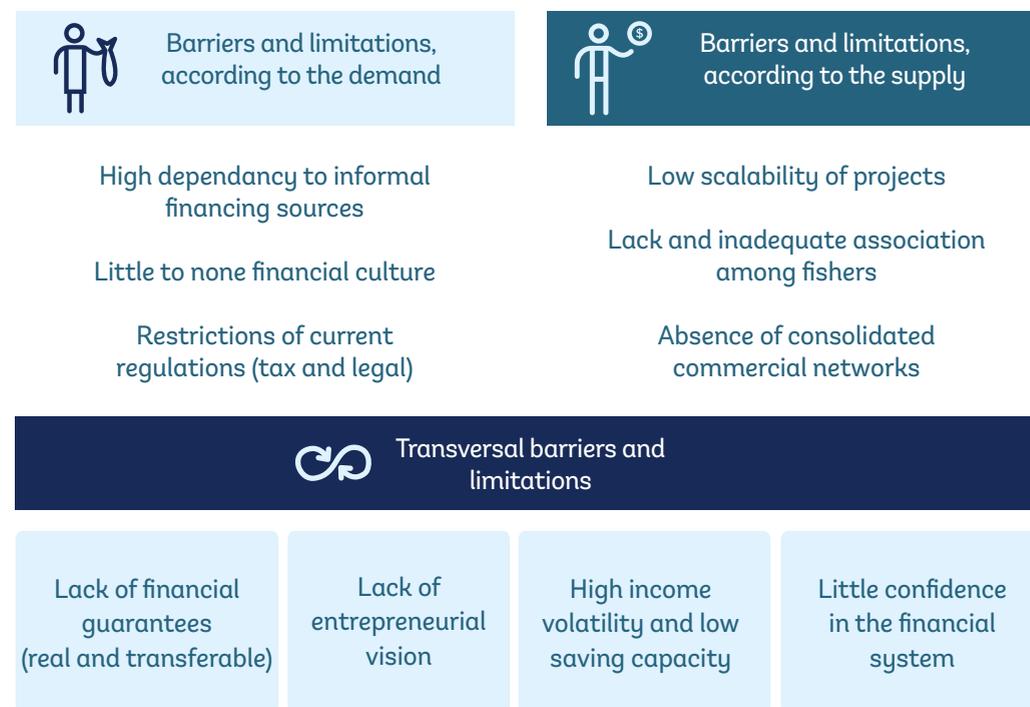
Through our analysis, we have identified different barriers and limitations for the **fishers, boat owners, processors, enterprises, organizations and formal financial institutions (public and private) interviewed (see Figure 10)**. First, according to our analysis of demand, the **high dependency** on informal financing sources is due to the immediate, unconditional, and flexible financial support (not limited to monthly payments) that the fishers, boat owners and processors receive, for both occupational and personal expenditure (related to family, health or other needs). Furthermore, fishers have little-to-no **financial literacy**, which limits their ability to compare interest rates and recognize the true costs of formal and informal financial sources, and usually results in them disregarding formal financing as a suitable option. Also, the **restrictions of current regulations** (tax and legal) discourage boat owners from acquiring new technologies for their vessels, as doing so would bring about an increase in their sales, forcing them to pay more in taxes and/or harvest rights.

On the other hand, with regard to the supply, the interviewees argue that fishers are discouraged from seeking financing by the small number of technology producers and the high costs of the prototypes they wish to implement. This, results in **low scalability** for those projects that seek to promote sustainable environmental management and strengthened fisheries communities. In addition, the **absence of consolidated commercial networks** (restaurants, supermarkets, processing plants with export facilities, among others) prevent fishers from obtaining better prices for their products (in domestic and international markets) and, thus, reduces their ability to repay loans. On the other hand, although collaboration between enterprises or fishers improves the probability of loan repayment (both the down payment and the interest), this is not to say that all members of an association are actually able to make repayments. In many cases, loan repayment is assumed by only a small percentage of association members given the **inadequate associative processes**.

Universally, fishers and financial institutions alike believe that **high income volatility and low saving capacity are two of the main characteristics of the sector**. Seasonality and climate fluctuations inhibit the predictability of monthly income, which affects the ability of resource users to save and commit to repayments, making them less suited to formal financing. Because of this volatility, most artisanal fishing is little more than a subsistence activity, and fishers have difficulty making long-term decisions, which is related to their **lack of entrepreneurial vision**. This last barrier is also caused by the poor education levels of the fishers, the boat owners and the processing workers.

In addition, there is **little confidence in financial institutions**, mainly because they are seen as inflexible (do not provide feasible repayment options for them), costly (extremely high rates) and dangerous (they can take their assets way). It is common that artisanal agents' assets are not registered in SUNARP (**lack of financial guarantees**), which leaves them with two options: not accessing to formal financing or putting their house mortgage as collateral for a loan.

**FIGURE 10:** Barriers and limitations identified by the fishers and main stakeholders of the sector during the interviews





**VIII. Concluding remarks  
and recommendations:  
Breaking the barriers**

**From the assessments carried out, it is evident that financial institutions lend through based on requirements that are not suited to the circumstances of artisanal fishing associations. Small-scale and artisanal fisheries are vulnerable to a series of contingencies (such as weather shocks, accidents at work and diseases, among others) that affect the ability of fishers to save and sustain their income over time.** Other financial institutions could replicate the practices of certain CMACs, such as repayment schedules adapted to the pattern of income generation in fishing (for example, loans with the option of quarterly installments). Likewise, there is a need to develop products to compensate enterprises for the losses they may suffer due to negative events (for example, insurance against weather shocks). The main instrument applied to this end by the state is the SOPA. However, this does not cover accidents that occur outside fishing activities, pre-existing injuries, or injuries aboard vessels without harvest rights or authorization from the DICAPI. As such, it would be useful for the state to work on a new product to mitigate financing risks for the industry.

**Fishers do not receive clear benefits from formalization, which reduces the likelihood of their compliance with requirements such as possession of an active tax ID, company constitution certificate and other documents attesting to the formality of their operations—all of which are pre-requisites for obtaining financing.** Fishers and artisanal associations feel that the incentives to remain informal, such as avoiding paying taxes and harvest rights, are stronger. To address this problem, there is a need for training and information campaigns to inform fishers about how formalization can boost their income. In addition, training on financial and accounting topics should be provided to help fishers recognize the true costs of financing through informal sources, and compare these with the costs of loans they could obtain from formal financial institutions or public channels (for example, FONDEPES). It is recommended that fishers support and participate in devising training and awareness campaigns (participatory strategy) in order to change the prevailing top-down approach and help establish partnerships that guarantee the success of these strategies.

**The acquisition and travel costs involved in completing regulatory procedures, as well as the time this involves (and the resultant loss of income) cannot be assumed by fishers, given their income levels.** In addition, fishers are not aware of the steps they need to follow to set up as an enterprise (registration in public records), register with the tax authorities or obtain the documents they need to fish (harvest rights, registration certificate, fisher's card, shipping book and sanitation protocol certificate). Thus, training should also cover all of these aspects to ensure a comprehensive formalization process.

FONDEPES could lead the way in these efforts since it has already carried out a series of training programs on these topics through the Fishing Training Centers.

**Those from the industry who apply for financing are unable to assume down payments (or the co-financing percentage) and do not have assets that can be used as collateral (movable or immovable).** There are opportunities to promote collaboration as an instrument to mitigate risks in this area. Financiers could consider group credit schemes, so that the members of the group can serve as guarantors for the association. Likewise, the association could jointly cover the down payment, reducing the pressure on each fisher's limited income stream. A challenge in this regard is that in practice there is little joint work by members of any industry associations. There is a need to provide a series of training and awareness-raising events to inform fishers of the benefits they can obtain by grouping together, such as to access formal sources of financing.

**From our assessment of supply and demand, participating fishers must meet at least the following requirements:** (i) not have penalties or fines by the competent authorities; (ii) not have previous debt defaults; (iii) meet the standards of formality required by government authorities to engage in small-scale or artisanal fishing activity (possession of a registration certificate and harvesting rights); (iv) have an entrepreneurial profile or an interest in developing a sustainable investment opportunity; and (v) not use fishing gear or practices that threaten the sustainability of stocks and the ecosystem (for example, fishing for juveniles or blast fishing).

**The investment needs of artisanal and small-scale fisheries are varied, but the assistance provided by suppliers only covers a narrow range.** So far, the main investment needs addressed by formal financing have caused an increase in fishing effort and reduced sustainability. For this reason, we suggest that the financed projects be multidimensional in order to improve fishers' well-being, and introduce new technologies and practices that will close the sustainability gaps. **In this regard, certain types of projects could be prioritized: (i) electric refrigeration and propulsion systems; (ii) use of solar panels and other renewable energies; (iii) fishing gear for selectivity; (iv) traceability technologies; and (v) trucks with incorporated refrigeration systems, among others. Finally, the Peruvian government could make active use of traceability systems and environmental mitigation practices as tools that serve as the basis for formalization processes.**

There is a need to finance projects that adequately empower the women and young persons involved in the primary and secondary processing with a view to enhancing products and boosting the prominence of these minority groups in the industry. This will make an impact on both the sustainability of fishing and the quality of life of the families that depend on it. Thus, it is hoped that some projects will include roles that can be occupied by young persons with higher qualifications (technical and/or university) in activities related to fishing and/or in business administration, accounting, logistics, technology, commerce, among other relevant areas. Also, since it has been identified that women from some communities participate actively within the organizations and the marketing stage, it is hoped that their roles can be strengthened and expanded as part of the projects and investment readiness assessments to be developed.

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A key objective of the CFI Program is to find new ways to achieve the sustainable use and management of coastal fisheries, particularly through its Challenge Fund. The CFI Challenge Fund (CFI-CF) currently operates in six countries: Cabo Verde, Côte d'Ivoire, Senegal, Indonesia, **Peru** and Ecuador.

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