COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED SAFEGUARDS DATA SHEET (PID/ISDS)
APPRAISAL STAGE

Report No.: PIDISDSA17234

Date Prepared/Updated: 06-Oct-2016

I. BASIC INFORMATION

A. Basic Project Data

Country:	Peru	**Project ID:**	P155902
		Parent Project ID (if any):	
Project Name:	National Program for Innovation in Fisheries and Aquaculture (P155902)		
Region:	LATIN AMERICA AND CARIBBEAN		
Estimated Appraisal Date:	07-Oct-2016	**Estimated Board Date:**	23-Feb-2017
Practice Area (Lead):	Environment & Natural Resources	**Lending Instrument:**	Investment Project Financing
Borrower(s):	Ministerio de Economia y Finanzas		
Implementing Agency:	Ministerio de la Produccion - PRODUCE		

Financing (in USD Million)

Financing Source	Amount
Borrower	80.90
International Bank for Reconstruction and Development	40.00
Financing Gap	0.00
Total Project Cost	120.90

Environmental Category:	B - Partial Assessment
Appraisal Review Decision (from Decision Note):	The review did authorize the team to appraise and negotiate
Other Decision:	
Is this a Repeater project?	No

B. Introduction and Context

Country Context

Over the past two decades, Peru has made significant advances in accelerating growth, reducing poverty, and promoting social development. Peru?s three-pillared macroeconomic framework (which combines a flexible exchange rate, inflation targeting, and fiscal prudence) has contributed to a long period of relative macroeconomic stability. From 2000 to 2014, growth averaged 5.3 percent per year, despite a weak external environment and a financial crisis in 2009 during which the economy continued to expand. Employment growth and associated income gains achieved during a period of relative price stability, combined with the implementation of targeted social assistance programs, have helped to reduce the share of Peruvians living in moderate poverty from nearly 60 percent in 2004 to around 22.7 percent in 2014. During the same period, the share of those living in extreme poverty fell from 16 percent to 4.3 percent.

Sound macroeconomic management has created the fiscal space needed for countercyclical policies to soften the impacts of occasional economic slowdowns, such as the one that is currently being experienced. Since 2015, sluggish global demand and low international prices for oil, gas, and minerals have put pressure on Peru?s exports, which have contracted sharply. Meanwhile, political instability and periodic protests against large-scale mining projects have created some uncertainty in the business climate, possibly contributing to the weakening in private investment. The Government has responded by putting in place countercyclical fiscal policies and stimulus packages to boost growth.

Despite the recent gains in growth and poverty reduction, income disparities within the country remain pronounced, particularly between rural and urban areas. In 2014, the national poverty rate stood at 22.7 percent, but in rural areas it was much higher?around 46 percent. Recognizing that further progress is needed in the battle against poverty, the government has launched an ambitious development agenda designed to accelerate growth and improve equity by boosting productivity and eliminating social disparities. During 2015, known as ?the year of productive diversification and strengthening of education,? a number of initiatives were launched to encourage innovation and facilitate productive diversification, with the goal of creating new engines of growth in sectors such as fisheries and aquaculture, agriculture, and forestry.

Sectoral and institutional Context

Peru ranks among the top fish producing countries in the world, thanks to its location adjacent to the Humboldt Current Large Marine Ecosystem (HCLME). About 18-20 percent of the global fish catch derives from the HCLME, comprising mainly small pelagic species, especially anchoveta. The highly productive HCLME supports other important fishery resources, along with a large population of marine mammals and a vast seabird population. Due to its extremely large size and abundant biodiversity, the HCLME is of global importance.

The Peruvian anchoveta fishery?the world?s largest fishery by volume?is of significance to the national economy. Over 95 percent of the Peruvian anchoveta catch is processed into fish meal and fish oil before being exported. In 2012, the value of anchoveta exports hit an all-time high of US$3.3 billion, accounting for 11.4 percent of Peru?s total exports. Over the past decade, anchoveta exports have accounted for around 7 percent on average of total exports. In recent years, the government of Peru has introduced a number of regulatory measures designed to ensure the sustainability of the anchoveta industry, and it continues to invest significant resources in bi-annual stock assessments and other monitoring activities.

While the attention directed to the industrial anchoveta fishery seems to be paying dividends, relatively little attention has been directed to other, predominantly artisanal marine capture

fisheries and to the nascent marine and fresh-water aquaculture sub-sectors, where there are significant opportunities for improvement. Artisanal fishing accounts for only about 15 percent of total landings, but it provides jobs for large numbers of people, invigorates local economies, and supplies about 80 percent of the fresh fish and seafood consumed in the domestic market. According to the First National Census of Artisanal Fisheries (carried out in 2012), artisanal capture fisheries provide employment for 12,400 ship owners and 44,000 fishermen. When post-harvest activities such as processing, storage, and wholesale and retail distribution are included, the total employment number swells to around 221,000 people, including large numbers of women. Women play an especially important role in post-harvest activities, including processing and retail distribution, although their contribution is not often recognized. According to a recent study Peru?s fishery sector, women are responsible for 50 percent of processing and almost 60 percent of retail marketing of fish products.

The importance of fisheries and aquaculture in Peru extends well beyond purely economic considerations. In a country in which portions of the population continue to suffer from hunger and malnutrition, fisheries and aquaculture could also make a significant contribution to improved nutrition, especially among the poor. In 2014, 14.6 percent of Peruvian children under the age of 5 were undernourished, and the rate was much higher in rural areas and among low-income groups (28.8 percent overall in rural areas, and 34 percent among the lowest two income quintiles in rural areas). A Comer Pescado, a program initiated in 2011 by the Ministry of Production (PRODUCE), is attempting to boost fish consumption in regions where the consumption of fish has traditionally been low. By 2016, the program is expected to reach 500,000 people, mainly in Andean communities. The efforts initiated to date to promote increased fish consumption represent steps in the right direction, but they could be far more ambitious. At a time when overall demand for fish and other seafood products is rising rapidly, driven by population increases, rising incomes, and growing appreciation among consumers of the nutritional benefits, considerable scope exists to make better use of currently overexploited marine capture fisheries and to exploit large opportunities in marine and fresh-water aquaculture.

Against this background, the government of Peru is seeking to expand and diversify the fisheries sector, with the goal of complementing the large-scale, low-value anchoveta fishery with a diverse set of extractive and productive activities involving both wild and farmed species that can generate high-value products, provide employment, stimulate growth, and help meet rapidly growing domestic and international demand for fish and seafood products. While innovation is clearly needed to drive future growth, the challenges facing marine capture fisheries other than anchoveta and aquaculture are not the same, so different strategies will be needed to unlock their respective potentials.

In the case of marine capture fisheries other than anchoveta, the principal challenge will be to ensure the sustainability of wild fish stocks in the face of increased fishing effort. Currently, the main species targeted by larger commercial vessels?hake?is over-exploited, as are most of the numerous near-shore species targeted by artisanal fleets. It is difficult to form a precise picture of the current state of many marine fisheries, however, because data on stock status are limited, regulatory oversight and enforcement is lacking, and compliance with regulations is poor. With innovative management practices that empower local communities and provide incentives to preserve the health of the resource, these fisheries could be rebuilt to the point where they could generate as much value to the economy as the anchoveta industry currently does. Sustainable development of the marine capture fisheries other than anchoveta would also contribute significantly to improving the livelihoods of coastal communities, which include some of the

most marginalized members of society.

In the case of aquaculture, the principal challenge will be to improve productivity and production of existing cultured species and to increase species diversification while avoiding adverse environmental impacts. Marine aquaculture is currently dominated by a small number of species; about three quarters of the value from marine aquaculture derives from shellfish (mainly sea scallops) and shrimp produced in the Coastal region. Development of marine finfish culture will require significant investments in new technology, along with regulatory reforms. Feasibility studies have revealed that a number of marine species have considerable potential to diversify the aquaculture spectrum of the country, such as tuna fish and flat fishes. Inland aquaculture consists mainly of trout production, which takes place in the Andean region and which depends heavily on the importation of fertilized eggs. Production of tilapia, which dominates fish culture in many other parts of Latin America, shows great potential particularly among small scale producers, but tilapia is produced and consumed on a limited scale at present in Peru. Cultivation of indigenous species (paco, gamitana, doncella, paiche, sÃ¡balo) is on the increase in the Amazonian region, but the development of economically sustainable production systems will require large investments. Demand in the domestic market remains unstable, and the infrastructure and logistics needed for exports is still underdeveloped.

A final underdeveloped fishery resource relates to indigenous freshwater species. Collection of ornamental species in the Amazon region for export to the aquarium trade has grown rapidly in recent years. Because these exports are largely unregulated, some species are threatened with extinction, which in addition to impacting global biodiversity would also impose economic hardship on the communities that currently derive income from their sale. Research is needed to help local collectors switch to breeding these high value species, relieving pressure on the environment and offering a source of higher and more stable income.
The government?s long-term vision for the development of the fisheries sector thus includes two parallel goals. The first goal is to reorient the exploitation strategy for marine capture fisheries by increasing the relative importance of species other than anchoveta while ensuring the sustainability of wild fish stocks. The second goal is to expand the aquaculture sector, both marine and freshwater, by encouraging investment throughout the value chain in ways that will increase incomes, generate employment, and improve nutritional outcomes. These goals will not be achieved easily or quickly; they will be achieved only through policy reforms, institutional changes, and supporting investments sustained over an extended period.

In this context, the National Program for Innovation in Fisheries and Aquaculture (PNIPA) is conceived as the initial phase of a multi-phased effort to build a larger, more diversified, more productive, and environmentally sustainable fisheries and aquaculture sector. The Program will be led by the Vice Ministry of Fisheries within PRODUCE, which holds the overall mandate for developing and managing the fisheries and aquaculture sectors. Consistent with the objectives of the government?s Productive Diversification Plan, the vision of PRODUCEÂ´s Multiannual Strategic Sector Plan (PESEM) is a diversified, productive, innovative, and environmentally sustainable fisheries and aquaculture sector, one comprising vibrant and competitive value chains in which value-adding activities are carried out by a diverse set of actors including individuals, producer organizations and cooperatives, small- and medium-scale enterprises, large industrial firms, and conglomerates. A central theme of the Project is to support the government?s strategy to transition from a sector that currently is focused primarily on industrial exploitation of a single species?anchoveta?to a sector that will be larger, more diver sified, and increasingly reliant on

productive activities (aquaculture) as opposed to extractive activities (capture fisheries).

Transforming Peru?s fisheries and aquaculture sector is an ambitious undertaking that will require sustained effort at a large scale on multiple fronts. Rather than attempting to achieve all of its objectives through a single program or project, PRODUCE pragmatically has decided to use an array of focused initiatives, to be supported with different sources of financing. Within this larger strategy, the intended role of PNIPA is to promote innovation and strengthen institutional capacity to support innovation in artisanal capture fisheries and aquaculture. Focusing separately on artisanal fisheries and aquaculture makes sense, because the management strategies appropriate for artisanal fisheries and aquaculture differ from those needed for the industrial fishery, and the capture technologies used by smaller vessels are of limited relevance to the industrial fleet.

By design, PNIPA is not intended to play a major role in the parallel effort being pursued by the government of Peru to improve the management of industrial marine capture fisheries, which involves a different set of activities (industrial fishing of pelagics, primarily anchoveta), targets a different set of actors (the industrial fishing fleet, fish meal and fish oil manufacturers, fish meal and fish oil exporters), and requires a different set of instruments (policies relating to industrial fishing practices, catch quotas, industrial manufacturing processes, and export regulations). It should be noted, however, that the activities to be supported under Component 3 to strengthen institutional capacity within PRODUCE and other public agencies will benefit the entire sector, including both artisanal and industrial fisheries.

C. Proposed Development Objective(s)

Development Objective(s)

The Project Development Objective is to strengthen capacity in delivery of innovations in the fisheries and aquaculture value chains.

Key Results

Three key results will be used to monitor the success of the Project:
(a) Increased supply of validated innovations that can improve performance in the fisheries and aquaculture value chains.
(b) Increased access by beneficiaries to validated innovations that can improve performance in the fisheries and aquaculture value chains.
(c) Strengthened capacity of public and private institutions to support innovation in the fisheries and aquaculture sub-sectors.

D. Project Description

Component 1. Promoting innovation in the fisheries sub-sector (US$30.8 million, including US$11.9 million from IBRD)

With the goal of enhancing the economic viability and environmental sustainability of fisheries activities, Component 1 will strengthen capacity in delivery of innovations in the capture fisheries sub-sector. It will finance a competitive grant mechanism and supporting services to assist beneficiaries in developing proposals and implementing subprojects funded through successful proposals. The competitive grants mechanism will feature four windows designed to support: (i) applied research to test new fisheries management systems, best practices, organizational

arrangements and planning methods that contribute to the sustainability of the fishery; (ii) adaptive research efforts to tailor management approaches, practices and technologies proven effective in other fisheries and value chains to fisheries in Peru; (iii) extension services to help scale up effective tools and practices; and (vi) capacity-building to strengthen the community of applied fisheries research and extension service providers. Activities that could potentially be funded include: testing the effectiveness of fisheries management schemes based on the assignment of territorial user rights, testing new approaches designed to incentivize accurate catch reporting, use of market analysis methods to determine the potential to improve profits by modifying fishing practices, testing technologies to improve compliance with fishing norms, and testing technologies to permit traceability of the catch. To support these activities, Project financing will be used to fund technical assistance and extension advisory services; purchases of equipment and software for monitoring vessels and tracking the flow of products through the value chain; preparation of marketing strategies and development of business plans for commercialization of fish and seafood products; and upgrading or expanding existing landing, processing, and storage facilities, among others. The overall portfolio of subprojects will be monitored to ensure that approved subprojects are sensitive to the needs of the entire target population, including vulnerable groups such as women and indigenous people.

Eligibility requirements: Under Component 1 subproject grants will be awarded to one or more productive agents that have partnered with one or more innovation agents to develop a collaborative proposal for applied research, adaptive research, extension, or capacity-building that offers a clear value proposition for improving the productivity, profitability, and/or sustainability of the fisheries sub-sector by improving the management and/or use of fisheries resources. Innovation agents will be required to ensure that proposals benefit both men and women. They will be encouraged to develop proposals targeting specifically women?s needs and constraints in fisheries sector.

Component 2. Promoting innovation in the aquaculture sub-sector (US$62.6 million, including US$24.1 million from IBRD)

With the goal of enhancing the productivity and profitability of aquaculture activities, Component 2 will strengthen capacity in delivery of innovations in the aquaculture sub-sector. It will also support the generation of knowledge and the development of innovations needed to launch new aquaculture activities. Component 2 will finance a competitive grant mechanism and supporting services to assist beneficiaries in developing proposals and implementing subprojects funded through successful proposals. The competitive grants mechanism will feature four windows designed to support: (i) adaptive research designed to assess the potential of native aquatic species and/or fill technological gaps to allow their economically viable cultivation, as well as adaptive research designed to test and adapt to local conditions aquaculture culture systems that have been proven viable in other countries; (ii) applied research designed to adapt aquaculture management practices, organizational models, and technological approaches so they can solve problems that currently limit productivity and undermine competitiveness in aquaculture value chains; (iii) extension services to help scale up effective tools and practices; and, (v) capacity-building to strengthen the community of applied aquaculture research and extension service providers. Activities that could potentially be funded include technical assistance and extension advisory services; purchases of equipment and materials used in the production of fingerlings/larvae and feeding of fish and other aquaculture species; preparation of marketing strategies and development of business plans for commercialization of aquaculture products; and upgrading or expanding aquaculture production, processing, and storage facilities, among others.

Eligibility requirements: Under Component 2 subproject grants will be awarded to one or more productive agents that have partnered with one or more innovation agents to develop a collaborative proposal for applied research, adaptive research, extension, or capacity-building that offers a clear value proposition for improving the productivity, profitability, and/or sustainability of the aquaculture sub-sector by improving the management and/or use of aquaculture resources. Innovation agents will be required to ensure that proposals benefit both men and women. They will be encouraged to develop proposals targeting specifically women?s needs and constraints in the aquaculture sector.

Component 3. Strengthening institutions and policies in support of fisheries and aquaculture (US $16.5 million, including US$4.0 million from IBRD)

With the long-term goal of transforming the institutional structures and governance arrangements for the entire fisheries and aquaculture sector, Component 3 will finance activities designed to strengthen the capacity of the key public agencies that are active in the sector, rationalize their roles and responsibilities to reduce redundancy and improve effectiveness in the delivery of public goods and services, put in place a cutting-edge monitoring and evaluation system that will enable evidence-based policy decision-making, and support the development and implementation of more effective sectoral policies and strategies. Component 3 will focus on: (i) promoting networks of innovation in the fisheries and aquaculture sector by organizing activities that will serve as platforms for exchange of knowledge and by facilitating discussions and consensus building for policy reforms; (ii) supporting the development of policy and regulatory frameworks to encourage innovation by promoting the strengthening of sanitary standards, and supporting the development of traceability systems for fisheries and aquaculture products; and (iii) developing mechanisms for monitoring and evaluation of the national system for innovation in fisheries and aquaculture (Sistema nacional de innovaciÃ³n en pesca y acuicultura ? SNIPA), by supporting analytical, training, and advocacy activities designed to improve the capacity of PRODUCE to monitor systemic changes in the fisheries and aquaculture sector. To support these activities, Project financing will be used to fund stock assessments and other types of diagnostic studies; purchases of equipment and software for monitoring vessels, documenting landings, and tracking the flow of fish and seafood products through the value chain; degree and non-degree training of staff in public agencies responsible for regulation and governance of the fisheries and aquaculture sectors; and upgrading or expanding existing research facilities and quality assurance laboratories, among others.

Component 4. Project management (US$11.0 million, including US$0.0 million from IBRD)
Component 4 will strengthen the institutional and organizational capacity of the Vice Ministry of Fisheries within PRODUCE required for the successful implementation of Project-supported activities, including compliance with procurement, safeguards, financial management, and monitoring and evaluation requirements. A Project Implementation Unit (PIU) will be established within PRODUCE to implement the Project. The PIU will be led by an Executive Director who will be supported by an Operations Director and will host technical, administrative, fiduciary, legal, safeguards, and M&E specialists, along with the necessary support staff. The PIU will endeavor to recruit and maintain both male and female staff members.

Component Name

Promoting innovation in the fisheries sub-sector

Comments (optional)

Component Name

Promoting innovation in the aquaculture sub-sector

Comments (optional)

Component Name

Strengthening institutions and policies in support of fisheries and aquaculture

Comments (optional)

Component Name

Project management

Comments (optional)

E. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project will finance applied research and development activities, extension and knowledge transfer activities, analytical work, and regulatory and policy reforms in the fisheries and aquaculture sub-sectors, with a presence in many of the highly diverse geographical regions of Peru. These include the marine and coastal areas from Ecuador to Chile adjacent to the Humboldt Current Large Marine Ecosystem; areas featuring Andean lakes and rivers, including those found in the highly biodiverse endorheic basin containing the Lake Titicaca and tributaries; and areas containing rivers and meanders in the Amazon region. It is anticipated that most activities financed under subprojects will be located in rural areas characterized by high levels poverty in which vulnerable groups (e.g., artisanal fishermen, women, indigenous people) practice traditional subsistence fishing and agriculture activities. Natural environments for aquaculture subprojects in the Andean region, such as lakes and rivers, are facing the impact of climate change, which will be expressed in the coming decades in the retreat of glaciers and the disappearance of some lakes and rivers. While many lakes and rivers in Peru are relatively uncontaminated, some, notably in the Amazon region and in the highlands, present high levels of mercury due to illegal mining activities or are subject to pollution from other sources.

Public Disclosure Copy

F. Environmental and Social Safeguards Specialists

Alonso Zarzar Casis (GSU04)

Raul Tolmos (GEN04)

II. Implementation

Institutional and Implementation Arrangements

The organizational structure, implementation arrangements, and staffing needs of the Project were determined based on the results of an institutional assessment carried out during preparation. The assessment concluded that since PRODUCE has not previously managed a World Bank project, it is

not familiar with World Bank environmental and social safeguards policies and procedures. The assessment also concluded that PRODUCE has limited capacity to oversee safeguards implementation.

To ensure that PRODUCE will be able to carry out its safeguards oversight duties effectively, resources have been earmarked for capacity building of PIU staff and for a full range of implementation support activities, including project administration, human resources management, procurement, financial management, environmental and social safeguards compliance, and monitoring and evaluation. A full-time environmental specialist and a full-time social specialist will be hired by PRODUCE and assigned to the PIU for the duration of the Project. Their salaries and operational expenses will be covered with resources allocated to project management (Component 4). They will be supported by consultants engaged to carry out Environmental Impact Assessments (EIAs) and Prepare Environmental Management Plans (EMPs) and Indigenous Peoples Plans (IPPs), if and when these are needed for specific subprojects. Funding for EMPs and IPPs is included in the budget allocations to Component 1s and 2. The number of social and environmental specialists could be increased depending on the number of grant proposals and consulting assignments to that will need to be reviewed and supervised.

The Borrower of the Loan will be the Republic of Peru, represented by the Ministry of Economy and Finance (MEF), which will on-lend loan proceeds to PRODUCE. Within PRODUCE, the Project will be managed by the Vice Ministry of Fisheries, which holds the mandate to develop and manage the fisheries and aquaculture sector, including playing the key role of coordinating with regional and local governments to ensure that national fisheries and aquaculture policies are effectively implemented. In its capacity as implementing agency, PRODUCE will be responsible for the implementation of all Project activities, internal and external communications, procurement, financial management, compliance with safeguards policies, and monitoring and evaluation.

A lean Project Implementation Unit (PIU) will be established within PRODUCE to implement the Project. The PIU will be led by an Executive Director and will include planning and budget specialists, fiduciary specialists, monitoring and evaluation specialists, safeguards compliance specialists, and associated support staff. The safeguards specialists will be on board no later than six months after effectiveness.

The Operational Manual will describe the Project's institutional setup and provide details regarding its administrative, financial management, procurement, safeguards, and monitoring and evaluation procedures. Preparation of the Operational Manual and its approval by the World Bank is a condition of effectiveness. The PIU will be staffed with female and male professionals and consultants to ensure adequate capacity for project implementation. The Operational Manual will detail the specific roles and responsibilities of PRODUCE (the implementing agency), as well as other institutions involved in carrying out the activities of the Project.
The implementation time frame of the Project is expected to be five years

III. Safeguard Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	OP/BP 4.01 is triggered. The project is classified Category B. This category is justified by the fact that the activities to be financed (e.g., applied and

		adaptive research, extension and knowledge transfer, capacity building, policy design and regulatory reform) are unlikely to cause significant and irreversible environmental impacts and risks that could jeopardize the natural environment. It is likely that some subprojects will finance purchases of equipment (e.g., thermometers, refrigerators, scales, life vests, cages, rafts, racks or stakes) and establishment of small structures (e.g., feed storage facilities, aquaculture ponds, boat landing facilities). As part of the evaluation process, subproject proposals will be screened with the help of checklists for potential adverse environmental impacts (e.g. benthic impacts, water column impacts, impacts upon species or habitats of conservation importance, waste management, noise, transboundary issues, potential disease effects, impacts on other fish species). Separate checklists will be used to screen for potential health and safety issues. Subproject proposals will be required to include a description of environmental and social risks of the activities to be financed and to identify corresponding mitigation measures. These and other adverse environmental impacts can be mitigated through the use of appropriate environmental mitigation measures. An Environmental and Social Management Framework (ESMF) has been prepared by PRODUCE. The ESMF describes environmental management instruments that must be prepared for subprojects, in accordance with World Bank safeguards policies and national regulations applicable to small scale freshwater and marine aquaculture and marine and inland capture fisheries. Subprojects having potentially significant adverse environmental impacts, which under Peruvian law would require the preparation of a detailed EIA, will not be eligible for project funding, nor will subprojects involving the production for research or commercial purposes of non-native fish species. Subprojects financed under Components 1 and 2 will be required to follow the WBG Environmental, Health, and Safety Guidelines, as well as the IFC Environmental, Health, and Safety Guidelines for Aquaculture. In the case of technical assistance

		activities financed under Component 3 to support the development of policies and regulatory frameworks, the terms of reference for consulting assignments will ensure that consideration be given to environmental and social risks, as required by the WB Guidelines on the Application of Safeguard Policies to Technical Assistance (TA) Activities in World Bank-Financed Projects.
Natural Habitats OP/BP 4.04	Yes	OP/BP 4.04 is triggered. Expansion and/or intensification of fisheries and aquaculture production as a result of project-supported interventions could potentially have adverse impacts on terrestrial, freshwater, and marine ecosystems. For example, some applied research and development activities, and some extension and knowledge transfer activities, could involve interventions in sites located close to natural habitats in natural protected areas (e.g., national reserves or other areas with lower levels of protection in which some economic activity is allowed and compatible with protection purposes).
Forests OP/BP 4.36	Yes	OP/BP 4.36 is triggered. The project could indirectly support expansion of freshwater aquaculture production in critical forest ecosystems, such as mangroves on the northern coast, and tropical forests in the Amazon region.
Pest Management OP 4.09	Yes	OP/BP 4.09 is triggered. Some applied research and development activities to be supported under the project, and also some extension and knowledge transfer activities, could call for the use of disinfectants, antibiotics, anti-fouling agents, and other chemicals that are commonly used in commercial aquaculture to control parasitic pests. Cleaning of tanks and ponds could involve use of disinfectants, and antibiotics may be needed to prevent fish mortality due to diseases and parasites. In certain locations, toxic chemical substances may be needed to control aquatic weeds.
Physical Cultural Resources OP/BP 4.11	Yes	OP/BP 4.11 is triggered. Given the rich cultural heritage of Peru and the country-wide focus of the Project, some of the applied research, innovation and development activities and extension and knowledge transfer activities could be undertaken in localities or locations in or adjacent to physical cultural resources. Moreover, some of the rivers and lakes selected for siting aquaculture subprojects,

		particularly in the Andean region, may have spiritual value for local indigenous people.
Indigenous Peoples OP/BP 4.10	Yes	OP/BP 4.10 is triggered. The Project will be implemented in rural regions of Peru, including the highlands and the Amazon basin, both of which are home to large populations of indigenous people. Because the project will cover the entire national territory, it is expected that a potentially significant number of beneficiaries could be indigenous communities. The project being demand-driven, specific locations of Project-supported interventions cannot be known before appraisal, so it is not feasible to describe the social features of all the intervention areas. The fisheries and aquaculture innovation activities financed under the Project should benefit indigenous people by providing them with higher and more diversified incomes, assuming they are able to participate effectively and take advantage of the opportunities offered by the Project. Recognizing that some indigenous communities have limited experience applying for competitive grants and may lack capacity in preparing strong proposals, the Project will make a special effort to reach out to indigenous communities and provide additional technical assistance to support preparation of subproject proposals. Adverse social impacts can be mitigated through the use of appropriate social mitigation measures. An Indigenous Peoples Planning Framework (IPPF) has been prepared by PRODUCE. The IPPF describes social management instruments that must be prepared for subprojects, in accordance with World Bank safeguards policies and national regulations applicable to small scale freshwater and marine aquaculture and marine and inland capture fisheries. If fisheries and aquaculture subprojects are carried out by private agents in partnership with indigenous people within their territories, the IPPF stipulates that written agreements will be required showing that community consultations have taken place and that the partnerships have the support of the community.

		To ensure that employment generated by Project-financed investments benefits a broad spectrum of people within participating indigenous communities, the IPPF stipulates that rotational hiring policies will be used.
Involuntary Resettlement OP/ BP 4.12	No	OP/BP 4.12 is not triggered. The scope and scale of investments made through subprojects supported under Components 1 and 2 will be extremely limited; most subproject grants (which will benefit groups expected to range from several dozen to several hundred members) will range from $25,000 to $30,000 on average and will involve little or no investment in infrastructure, apart from upgrading of existing facilities. All subprojects supported under the Project will be implemented within the property of the beneficiaries (e.g., producers, producer associations, community groups, firms). Given the small footprint of these investments, beneficiaries usually will have ample choices for siting new facilities to avoid areas that are already being used, so no involuntary taking of land will be needed. In rare cases where displacement of existing users would be unavoidable, Project funding will not be provided. By design, some fisheries management schemes piloted under the Project are expected to limit access to fisheries resources to enhance the productivity of these resources and ensure their sustainability. In these cases, the Project will support only subprojects conducted in a community-based context, and any restrictions will have been discussed and agreed through an adequate participatory decision-making process, as allowed under Footnote 6 of OP 4.12. Activities financed under Component 3 will include the development of policy and regulatory frameworks, which may have safeguards implications, including temporal or spatial limitations on access to fisheries to enhance their productivity and ensure their sustainability as allowed under Footnote 8 of OP 4.12. Safeguards implications of policy and regulatory frameworks developed under the Project will be assessed and addressed when appropriate. Environmental and social dimensions will be considered when these are relevant, and consultations with civil society and

		potentially affected people will be carried out when appropriate.
Safety of Dams OP/BP 4.37	No	OP/BP 4.37 is not triggered. The Project will not support the construction or rehabilitation of dams, nor will it support other investments which rely on the performance of existing dams..
Projects on International Waterways OP/BP 7.50	Yes	OP/BP 7.50 is triggered. Some aquaculture production subprojects might rely upon water sources in the Titicaca Lake (shared between Peru and Bolivia) and the rivers and lakes of the Amazon region. Potential transboundary environmental risks associated with the projects were identified by the Environmental Assessment carried out as part of the project preparation process. These risks include discharges into transboundary waters of organic waste from aquaculture activities and accidental introduction of exotic fish species into transboundary waters. In accordance with the requirements of OP 7.50, downstream riparians were duly notified.
Projects in Disputed Areas OP/ BP 7.60	No	OP/BP 7.60 is not triggered. The Project will not finance activities in disputed areas as defined in the policy.

IV. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

(a) Environmental. Given that the Project will finance mainly small-scale demand-driven innovation subprojects, the potential for adverse large-scale, significant, and/or irreversible impacts is considered minimal. On the contrary, the Project is expected to enhance the sustainable management of the natural resource base on which the fisheries and aquaculture sectors depend while increasing the competitiveness of these sectors and increasing their contribution to growth and poverty reduction.

In the case of aquaculture subprojects to be funded under Component 2, which will make up the majority of project investments, adverse environmental impacts that could occur if adequate mitigation measures are not put in place include: (i) degradation of the lake bed and release of nutrients into the water column (these benthic impacts are relevant only in the case of cage farming in lakes, given the potential of this method to result in the deposit of large quantities of fecal and waste feed material); (ii) release of nutrient-rich materials (e.g., feed, fecal and excretory products) from cage farming, water flow out of ponds and flow-through hatchery and ponds to receiving water bodies such as rivers, irrigation channels and lakes, potentially affecting water quality; (iii) damage to species or habitats of conservation importance, including sensitive sites; (iv) restricted access by other users of the water sources and/or land base; (v) negative visual impact; (vi) excessive noise from generators or machinery, when these are used during construction, operation, or deconstruction of sites where project-supported activities are carried

out; and (vii) waste generation; (viii) curtailed recreational use; and (ix) increased traffic and transport.

The ESMF describes management measures can be taken to prevent and reduce adverse environmental, health, and safety impacts that could result from the construction and operation of aquaculture facilities. These include: (i) survey the project area before land and water conversion to aquaculture production is undertaken to identify, categorize, and delineate natural and modified habitats and ascertain their biodiversity importance at the national or regional level; (ii) ensure that the area to be converted to aquaculture use does not represent a habitat that is unique or protected (such as mangrove areas), that it does not harbor species of high biodiversity value such as critically endangered or endangered species, and that it is not an important wildlife breeding, feeding, or staging areas; (iii) design facilities so that as much as possible of the natural vegetation habitat is left intact and that conversion and degradation of the natural habitat is minimized; (iv) design and implement mitigation measures to achieve no net loss of biodiversity where feasible (v) avoid the need to frequently abandon and replace improperly designed and built aquaculture ponds: (vi) application of codes and guidelines; (vii) farming of sterile fish; (viii) prevent the escape of species from pond-based aquaculture systems (devices and knowledge of hydrology); (ix) construct pond and canal levees with adequate slope; (x) avoid pond construction in areas that have a slope of more than 2 percent; (xi) stabilize the embankments to prevent erosion; (xii) reduce excavation and disturbance of acid sulfate soils during construction; (xiii) carry out construction work during the ➢(dry➢(season to reduce sediment runoff that may pollute adjacent waters; and (xiv) install temporary silt fences during construction to slow down and catch any suspended sediments. Other mitigation measures may be designed to prevent contamination by effluents (from feed, other organic materials, suspended solids, fertilizers and chemicals). Some occupational health and safety issues will require paying attention to physical hazards such as lifting heavy loads, exposure to chemicals and water borne diseases as well as risk of electric shocks and drowning (e.g., provision of lifejackets and harnesses, train personnel in safety at sea and work with experience swimmers).

(b) Social. Impacts are expected to be positive for project participants. No irreversible or large-scale social impacts were identified during project preparation. The mainly small-scale demand-driven innovation sub-projects to be financed under the project are expected to increase the incomes as well as improve the quality of the diets of project beneficiaries, while protecting and sustaining the natural resource base on which fisheries and aquaculture activities depend. As mentioned in Section 3, these benefits will be realized only if indigenous people are able to participate effectively and take advantage of the opportunities offered by the Project. Recognizing that some indigenous communities have limited experience applying for competitive grants and may lack capacity in preparing strong proposals, the Project will make a special effort to reach out to indigenous communities and provide additional technical assistance to support preparation of subproject proposals.

(c) International Waterways. Aquaculture production activities carry inherent risks, including discharges into transboundary waters of organic waste and accidental introduction of exotic fish species into transboundary waters. Given the nature and small scale of the innovation sub-projects to be financed under the project, transboundary waters impacts are expected to be negligible. The activities to be financed under the project will be similar in size and nature to activities that are already ongoing. The intention of the program includes improving fisheries and aquaculture practices to make them more sustainable, thus reducing the environmental impact of existing and new activities in both sub-sectors.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

(a) Environmental. The specific subproject areas and research activities are not known yet. It is not possible to anticipate potential indirect and/or long term impacts.

(b) Social. Indirect social impacts are likely to include increased local employment due to the investments in improving technology and productivity.

(c) International Waterways. No potential indirect and/or long term impacts on transboundary waters have been identified.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

(a) Environmental: The project will finance mainly small demand-driven innovation sub-projects. Since the exact nature and precise location of the sub-project sites is not yet known, at this stage it is not possible to anticipate what are going to be the sub-project alternatives.

(b) Social. No significant adverse social impacts are expected, so no project alternatives were considered.

(c) International Waterways. No significant adverse transboundary waters impacts are expected, so no project alternatives were considered.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

(a) Environmental. An Environmental and Social Management Framework (ESMF) has been prepared by PRODUCE. It has been reviewed by the World Bank and deemed to be satisfactory. The ESMF lays out guidelines, procedures, and principles to be followed by the groups implementing subprojects to prevent or minimize adverse environmental impacts. For instance, subproject grant proposals will have to include information on potential environmental impacts of proposed activities, which depending on the nature and severity of the potential impacts may call for the preparation of an Environmental Impact Statement (EIS) or a partial Environmental Impact Assessment (EIA). The EIS or partial EIA may in turn call for the preparation of an EMP containing prevention/mitigation measures.

With the goal of preventing accidental introduction of exotic species, the ESMF states, among other things, that the Project ➢(will not provide funding for aquaculture and capture fish proposals that involve introduction of exotic species in coastal and inland areas.➢(Use of disinfectants, antibiotics, and chemical substances being common practice in aquaculture, it is possible that some subprojects will require the preparation of a customized Pest Management Plan (PMP). The circumstances under which a PMP will be required will be spelled out in the operational manual for subprojects. Among other things, the PMP will ensure compliance with the WBG Environmental Health and Safety Guidelines on Aquaculture. The PNIPA Project Implementation Unit (PIU) within PRODUCE will be staffed with environmental and social specialists charged with implementation of the ESMF.

(b) Social. As mentioned previously, the Project will not finance land acquisition, as Project-supported activities will be implemented by beneficiaries on their own land. The ESMF stipulates that in rare cases where displacement of existing users would be unavoidable, the Project will not

fund the subproject, so as to avoid triggering OP 4.12.

Due to the potential presence of indigenous peoples in the area in which subproject will be implemented, the Government of Peru has prepared an Indigenous Peoples Planning Framework (IPPF). It has been reviewed by the World Bank and deemed to be of good quality. The IPPF will guide the preparation of Indigenous Peoples Plans (IPPs), should these be deemed relevant. The PIU within PRODUCE will be staffed with a social specialist who will be responsible for the implementation of the IPPF. Similar to other World Bank-supported projects in Peru, should an IPP be required for a specific subproject, the social specialist in the PIU will contract the services of one of many local consultants who are familiar with World Bank safeguards policies and procedures and who are experienced in the preparation of IPPs.

The PIU within PRODUCE will hire staff and consultants to develop policy reforms, regulations, and management plans whose purpose will be to improve the environmental sustainability of fisheries and aquaculture as a way of increasing their contribution to shared prosperity, including indigenous peoples. In accordance with the World Bank Interim Guidance Note on Safeguard Policy and Technical Assistance, staff and consultants hired under the project will be required to ensure that their recommendations are consistent with World Bank environmental and social safeguard policies.

(c) International Waterways. Consistent with OP 7.50, the riparian states (Bolivia, Brazil, Colombia, Ecuador) were notified about the project. Responses were received from Bolivia and Brazil. No responses were received from Colombia and Ecuador. In their responses, the Governments of Bolivia and Brazil both indicated that it is difficult to comment on the notification, since the activities to be financed under the Project and the precise intervention sites will not be known until sub-project proposals received from beneficiary groups are received, evaluated, and approved. Both Governments requested to be notified about the nature and location of Project-supported interventions, once these are known. The World Bank communicated to the governments of Bolivia and Brazil that following each round of subproject funding, a list of subprojects will be made available to them with information about the location of the subproject sites and the types of subproject. This information will also be made publicly available through the PRODUCE website.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Project beneficiaries will include productive agents in fisheries and aquaculture value chains, innovation agents in fisheries and aquaculture value chains, and consumers as follows:

- Productive agents are individuals, producer groups, and firms involved in the capture, culture, processing, and distribution of aquatic species. This category includes artisanal fishers, small-scale marine and freshwater aquaculture producers, owners of artisanal fishing vessels, and all others who participate directly in post-harvest value-adding activities.
- Innovation agents are institutions, organizations, associations, communities, universities, research institutes, firms, non-governmental organizations (NGOs), governmental agencies, and international organizations (all having legal status officially recognized by the Peruvian state) that are engaged in innovation activities, as well as individual professionals and technicians who are engaged in innovation activities.
- Consumers are those who will gain access, as a result of Program-supported investments, to enhanced supplies of higher quality and/or lower-priced fisheries and aquaculture products.

Subproject proposals will also have to present written evidence of local communities support

to a given subproject, as well as consultations with the above-mentioned groups.

(a) Environmental. The ESMF was subjected to consultations with project stakeholders in January 2016. Participants in the consultations included representatives of PRODUCE, (the Ministry of Environment (MINAM), and two international environmental NGOs. Details of the consultations are included in an annex to the ESMF.

(b) Social. The IPPF was subjected to consultations with project stakeholders in January 2016. Participants in the consultations included representatives of national organizations of indigenous peoples. Details of the consultation are included in an annex to the IPPF.

(c) International Waterways. All sub-project proposals calling for activities to be implemented in transboundary waters will be screened for potential adverse environmental and social impacts. The PIU within PRODUCE will be staffed with environmental and social specialists charged with implementation of the ESMF and IPPF for all sub-projects, including those taking place in transboundary waters.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	30-Aug-2016
Date of submission to InfoShop	30-Sep-2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
Peru	20-Sep-2016
Comments:	
Indigenous Peoples Development Plan/Framework	
Date of receipt by the Bank	03-Sep-2016
Date of submission to InfoShop	03-Sep-2016
"In country" Disclosure	
Peru	20-Sep-2016
Comments:	
Pest Management Plan	
Was the document disclosed prior to appraisal?	NA
Date of receipt by the Bank	NA
Date of submission to InfoShop	NA
"In country" Disclosure	
Comments:	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the	

respective issues are to be addressed and disclosed as part of the Environmental Assessment/ Audit/or EMP.
If in-country disclosure of any of the above documents is not expected, please explain why:
An Environmental and Social Management Framework (ESMF) has been prepared for the project and publicly disclosed. The ESMF specifies the circumstances under which a Pest Management Plan (PMP) would be required, as well as the procedures to be followed in preparing the PMP. Should a PMP be required, it will be prepared according to the guidelines laid out in the ESMF and in conformity with all applicable national regulations, and it will be publicly disclosed.

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes [×] No [ ] NA [ ]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [×] No [ ] NA [ ]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [×] No [ ] NA [ ]
OP/BP 4.04 - Natural Habitats	
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [ ] No [×] NA [ ]
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [ ] No [×] NA [ ]
OP 4.09 - Pest Management	
Does the EA adequately address the pest management issues?	Yes [×] No [ ] NA [ ]
Is a separate PMP required?	Yes [ ] No [×] NA [ ]
If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design?If yes, does the project team include a Pest Management Specialist?	Yes [ ] No [ ] NA [×]
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes [×] No [ ] NA [ ]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [×] No [ ] NA [ ]
OP/BP 4.10 - Indigenous Peoples	
Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?	Yes [×] No [ ] NA [ ]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [×] No [ ] NA [ ]
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social	Yes [ ] No [ ] NA [×]

Development Unit or Practice Manager?	
OP/BP 4.36 - Forests	
Has the sector-wide analysis of policy and institutional issues and constraints been carried out?	Yes [×] No [ ] NA [ ]
Does the project design include satisfactory measures to overcome these constraints?	Yes [×] No [ ] NA [ ]
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?	Yes [ ] No [×] NA [ ]
OP 7.50 - Projects on International Waterways	
Have the other riparians been notified of the project?	Yes [×] No [ ] NA [ ]
If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?	Yes [ ] No [ ] NA [×]
Has the RVP approved such an exception?	Yes [ ] No [ ] NA [×]
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [×] No [ ] NA [ ]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [×] No [ ] NA [ ]
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [×] No [ ] NA [ ]
Have costs related to safeguard policy measures been included in the project cost?	Yes [×] No [ ] NA [ ]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [×] No [ ] NA [ ]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [×] No [ ] NA [ ]

V. Contact point

World Bank

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Borrower/Client/Recipient

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VII. Approval

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Practice Manager/ Manager:	Name: Marcelo Hector Acerbi (PMGR)	Date: 13-Oct-2016
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