Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 01/30/2023 | Report No: ESRSA02514

BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
Peru	LATIN AMERICA AND CARIBBEAN	P179037	
Project Name	Irrigation for Climate Resilient Agriculture		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Water	Investment Project Financing	1/26/2023	3/23/2023
Borrower(s)	Implementing Agency(ies)		
Republic of Peru	Programa Subsectorial de Irrigaciones - PSI		

Proposed Development Objective

The project development objective (PDO) is to improve the sustainability and efficacy of water services for irrigation and the productivity of water on family farms in selected areas that are vulnerable to climate change.

Financing (in USD Million)	Amount
Total Project Cost	130.70

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

Peru experienced exceptional economic growth over the past two decades, yet high levels of inequality persist. The inequality is especially visible when comparing rural, where the majority of the country's poor reside, and urban areas. The majority of the rural labor force works in the agricultural sector. Although irrigated yields are double those of rainfed (dryland) yields in Peru and are far more resilient to climate change, only 22 percent of agricultural land—2.6 million hectares—is under irrigation. This is significant given the role irrigation can play in lowering poverty levels, achieving better food security, and reducing farmers' vulnerability to climate change and climate variability.

The Sub-sectoral Irrigation Program (Programa Subsectorial de Irrigaciones, (PSI)) is the governing body of the irrigation subsector at the national level and is responsible for improving agricultural productivity. Water users' organizations (WUOs) are responsible for distributing water and the operational management of irrigation systems. WUOs cover more than 1.4 million hectares and serve almost three-quarters of a million users, yet lack technical capacity, specialized equipment, and reliable information about the availability and use of water resources. This makes it difficult for them to manage water resources sustainably and efficiently.

The project development objectives (PDOs) are to improve the sustainability and efficacy of water services for irrigation and the productivity of water on family farms in selected areas that are vulnerable to climate change.

Component A: Efficient Irrigation Investments (US108$ million, of which US$86 million IBRD). This component will improve irrigation services and agricultural productivity for 130 farmer user groups vulnerable to climate variability and climate change. The component is divided into two sub-components: (i) improving efficiency of water delivery systems, which includes modernizing infrastructure and management; and (ii) improving irrigation efficiency on farms. Component A will support work across 8,000 hectares.

Component B: Improving Governance and Promote Investments in Irrigation and Drainage (US$12 million, of which US$10 million IBRD). This component will support policy and institutional reforms, tools, and capacity building of administrative systems at the local, regional and national levels to develop and manage irrigation services and inform water governance. This component may also support pilots to contribute to the achievement of a sustainable nexus between water resources management and agriculture productivity.

Component C: Project Management and Interagency Coordination (US$5 million, of which US$4 million IBRD). This component includes activities to support the administration of the Project and the strengthening of the project implementation unit (PIU) within the PSI.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

Peru is the third largest country in South America and hosts a population of 34 million. It has habitats ranging from the arid plains of the Pacific coastal region in the west to the peaks of the Andes mountains extending from the north to the southeast of the country to the tropical Amazon basin rainforest in the east with the Amazon River.

Most of the agricultural land in Peru’s coastal region is irrigated to sustain commercial agriculture. However, in the highlands and high-altitude areas of the rainforest, where 50 percent of the rural population lives in poverty, only about 20 percent of the cultivated land is under irrigation (FAO, 2022). Most of these consist of small, traditional irrigation systems supplied mostly from surface water sources through open canals, which are characterized by low efficiency. Water user organizations (WUOs) made up of private water users are responsible for distributing water and the operational management of these systems. The subprojects to be financed by the project are currently operating through these traditional gravity-based systems.

Peruvian agriculture is a smallholder economy in which 85% of farmers have plots of less than 10 hectares (ha), with a predominance of productive units with an area of between 3 and 10 hectares (33%). Of the existing 5.7 million rural properties, only one third (1.9 million) are registered in the public registry, and smallholdings continue to grow (MIDAGRI, 2015). Small and medium-sized Peruvian agriculture is diverse, operates in very heterogeneous contexts, and shows different degrees of articulation with markets (GRADE, 2015). Productive units (PU) can differ in land tenure, size and level of fragmentation, level of specialization/diversification in crops and animal husbandry production, origin of workers, and crop destination, among other differentiating factors. Climatological conditions in each natural region, infrastructure and services coverage, and level of access to markets also influence the potential to develop sustainable agriculture activities for these small and medium PUs. Certain areas of the country are reported to have illegal crops and higher levels of violence risk, but according to information provided by PSI's field personnel in the project intervention areas, this is not the case where the subprojects will be developed.

As mentioned in section C., the project will implement physical and administrative interventions in a total of 8,000 ha via 130 selected subprojects, 72% of which are located in the Andean region ("Sierra"), 22% are in the coastal area ("Costa"), and 5% are in the upper rainforest part of the Amazon region ("Selva Alta"). E&S risks and impacts are expected to occur mainly in connection with infrastructure works foreseen under subcomponents A.1 and A.2, including the rehabilitation and construction of small reservoirs, facilities that do not qualify as either "large dams" or "small dams" under ESS4 (for more details see ESS1); while TA, studies, and other related soft activities such as institutional strengthening, included under subcomponents A.3, B.1, B.2 and B.3, are not expected to generate E&S risks and impacts. Infrastructure works are expected to occur in rural areas with previous interventions as the project will be implemented on plots of land under a current gravity irrigation regime.

The project focuses mainly on small and medium agricultural family farms that have less than 5 ha of agricultural land under production; already use small gravity irrigation systems overseen by larger WUOs; use mainly family-based labor; and have their production geared toward the market economy, although it can have weak links to it. Two categories of family farming, both of which make use of some form of irrigation, are targeted by the project: (i) non-critical Subsistence Family Farming (SFF) with less than 2 ha of land under production; and Intermediate Family Farming (IFF) with between 2 and 5 ha of land under production. Among Peruvian agricultural producers, subsistence family farmers are among the most vulnerable groups, and they account for 73% of the PUs in the sector (GRADE, 2015). These PUs are managed by indigenous peoples (47%) and/or women (30%) with educational levels of primary school or less (45%) and have a higher use of family-based labor (2.2 members of the family). Though they have a higher percentage of their agricultural production destined for self-consumption (37%), they also sell a significant part of their production in local market (46%), have a lower percentage of purebred animal ownership (17%) and register a lower percentage of total surface area in Public Registries (15%). Access to improved irrigation is 4% and only 1% have received training or technical assistance (GRADE, 2015).

The project's direct beneficiaries will include families that belong to 39 indigenous rural communities that collectively manage resources (land and water), as well as small independent agriculture landowners and land users. Indirect beneficiaries will include institutions involved in the management of water resources, local and regional governments that play a role in economic development at their respective levels, and the population at large due to greater agricultural productivity (food security, local job creation, contribution to the GNP, etc.).

D. 2. Borrower's Institutional Capacity

The implementing agency will be the Sub-sectoral Irrigation Program ("PSI" in Spanish) which is the decentralized governing body of the irrigation subsector and is attached to the Ministry of Agrarian Development and Irrigation ("MIDAGRI" in Spanish).

The PSI was the implementing agency of the Sierra Irrigation Subsector Project (P104760) whose ICR indicates a good track record of safeguards implementation performance; therefore, the implementing unit for the proposed project is considered to have relevant prior experience in E&S assessment and management processes for investment activities in a manner consistent with the World Banks' E&S standards. In fact, PSI has extensive experience implementing projects supported by the Inter-American Development Bank (IADB), the Agency for Japan International Cooperation (JICA), and the Global Environmental Facility (GEF); PSI therefore also has experience in implementing E&S standards of other multilateral agencies.

Despite of the above, in order to ensure an adequate project E&S management in accordance with the requirements of the relevant ESSs of the ESF, the PIU will be staffed by existing PSI's E&S personnel and additional hires as follows:
- At the central level, the PIU will have a full-time social specialist and a full-time environmental specialist, who will coordinate the proper implementation of the project's overall E&S management through the implementation of the E&S instruments, with the support of the territorial E&S staff. Both E&S specialists will be hired as a condition of effectiveness of the project.
- At the territorial level, the PIU will be staffed with three full-time socio-environmental specialists, one in each zonal office, covering the northern, central and southern territories, from Lambayeque, Junin and Arequipa, correspondingly. These territorial specialists will coordinate with contractors and supervisors to ensure compliance with the E&S instruments applicable to the project and each subproject during the execution of the project. These socio-environmental specialists will be hired as a condition for the execution of subprojects.
- For the subproject formulation and readiness phase, the PIU will appoint three project management specialists located at the territorial level, a socio-environmental specialist and one archaeologist located at the central office, who will ensure that the external consultants obtain the corresponding environmental, social (Environmental Management Reports - IGA) and archeological (Certificate of Non-existence of Archeological Remains - CIRA, Archeological Monitoring Plan -PMA) permits for each subproject during the preparation of the investment studies. The PIU will be in charge of preparing the Environmental and Social Management Plan (ESMP) for each subproject.
- The PIU will count with a TA coordinator focused on beneficiaries, a TA coordinator for OUAs and a TA coordinator for GOREs (Component A2, B1 and B2). TA activities should undergo an E&S review by the PIU during the formulation of the ToRs to verify compliance with the ESSs. The ToRs will also be prepared at the satisfaction of the Bank.

As set forth in the draft ESMF, (i) E&S management in each subproject will be carried out by a contractor's professional with expertise in E&S management; and (ii) verification of adequate implementation of E&S requirements in each subproject will be the responsibility of the supervision company. As the Bank identified that the PSI requires to broaden its understanding about the ESF, during Project preparation the Bank has provided (in-person ESF training for PIUs) and will continue to provide specific training to its E&S specialists to assist them in identifying and managing environmental and social risks and impacts relevant to the proposed project activities, in accordance with the ESSs. In addition, in an attempt to build adequate institutional capacity, the WB will work closely with the implementing agency to develop a training plan, for PSI, contractors and supervisors' personnel, during the early stages of implementation on (i) ESSs requirements and risk management instruments; (ii) E&S management tools; (iii) Environmental and Social Commitment Plan (ESCP) requirements; (iv) management of potential GBV/SEA risks; and (v) monitoring of E&S requirements and performance. Outlines for the training plan and other measures to strengthen

the PIU capacity on E&S matters during project implementation will be part of the project's ESMF and reflected in the ESCP. Key measures that PSI should address are timing of recruitment of staff in line with the Project implementation timeline, early and continued training of staff, and assess sequencing of project activities to ensure the recruited staff receive training prior the start of implementation and civil works.

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC) Moderate

Environmental Risk Rating Moderate

Project-related risks and impacts will mainly stem from civil works under subcomponents A.1 and A.2 including the construction of canals and water mains, rehabilitation and construction of small water reservoirs, installation of equipment, pipes, meters, pressure regulators, sprinklers, drips systems, and land leveling. Project activities will take place in previously disturbed areas, as the purpose of the project is to technify existing irrigation systems; hence, no significant risks or impacts to natural habitats and/or living natural resources are envisioned from construction or operation activities. The anticipated key issues derived from civil works include: (i) consumption of water and raw materials; (ii) generation of construction-related wastes; (iii) nuisances related to traffic, dust generation, vibration and noise; (iv) possible chance findings; and (v) occupational and community health and safety hazards; while the operation phase of a subproject could lead to (i) water overuse for irrigation purposes; (ii) impacts on water availability and their effects on aquatic life; and (ii) community health and safety hazards. At concept stage the Bank rated the environmental risk of the project as Substantial as there was: (i) limited information available about the number and size of reservoirs to be intervened and the potential E&S risks of their rehabilitation, construction and/or operation; and ii) a perceived complexity in overall project institutional arrangements and the need of relevant coordination efforts among agencies. Therefore, a due dilligence was performed during preparation and the following actions were included in the ESMF: (i) regarding unexpected failures of dams to be intervened, caused by fortuitous events, a consultancy was carried out to determine and assess this risk and corresponding potential floodingrisk on the subprojects' implementation areas. The consultancy revealed that the E&S risks of impacts caused by unexpected events are not significant. (ii) regarding the concern that construction, rehabilitation and operation of small water reservoirs may pose E&S risks, PSI conducted an assessment and concluded that abrupt failure of reservoirs due to fortuitous events would not have significant E&S risks or impacts, as the anticipated flooding exposure would be equivalent to the amount of water supplied to the irrigation area during a gravity-fed irrigation operation (more details under ESS4); and (iii) to address the complexity of the inter-institutional coordination required for the preparation and implementation of subprojects, the PIU will be staffed as described above under section D.2. Additionally, one professional with expertise in E&S management and one competent professional with knowledge of E&S matters will be appointed by the contractors and supervision firms, correspondingly, for each subproject, as will be reflected in corresponding bidding documents and is specified in the project's ESCP (more details under section D.2). Based on the above, and considering the small to medium scale and location of the civil works anticipated for each subproject, most risks and impacts are not likely to be significant; not complex or large; are anticipated to be predictable and expected to be temporary and reversible; low in magnitude; site-specific, without likelihood of impacts beyond the project footprint; with low probability of relevant adverse effects to human health or the environment; and such potential risks and impacts can be easily mitigated in a predictable manner; therefore, the environmental risk classification of the project is deemed Moderate at this stage. An exclusion list will be agreed

between PSI and the Bank in order to exclude from financing any project considered to be a substantial risk. The exclusion list will be in the ESMF.

Social Risk Rating Moderate

The social risk classification of the project is Moderate. The proposed project is expected to generate important positive impacts and opportunities for small farmers and their families, considering the outcomes of similar past projects in Peru. Nonetheless, possible social risks could include: (i) exclusion of vulnerable populations, whose interests could be under-represented, from taking full advantage of the project's different benefits and opportunities, including how to access modernized infrastructure and water services, how to participate in offered training and technical assistance, and how to benefit from labor opportunities, among others; (ii) possible complaints from local farmers not considered in the project scheme; (iii) minor labor influx risks, and (iv) health challenges to workers and communities posed by the ongoing COVID-19 health context. Regarding other potentials risks identified during concept stage, such as risks related to land (there is documented voluntary cession of land) and water usage (evidence of farmers already in possession of water license/permit and belonging to WUOs that manage authorized water use by ANA), they were ruled out in the areas where the subprojects will be located, based on information provided by PSI's field personnel. In addition, although certain areas of the country are reported to have illegal crops and higher levels of violence risk, this is not the case in the areas where the subprojects will be implemented, as per information provided by PSI's field personnel and a review of reports on conflicts (active and latent) from Peru's Ombudsman Office (Defensoria del Pueblo) going back twelve months. Even though child and formative labor are prevalent in the agricultural sector in Peru, particularly in rural and indigenous communities, PSI reported that children and adolescent in the families targeted by the project are generally attending school, while participating in on-farm activities before and after school. Likewise, the risk of replacing indigenous agricultural knowledge with unwelcome new approaches is considered low since the participating farmers from indigenous rural communities ("comunidades campesinas") have already adopted gravity-based irrigation systems and belong to overarching WUOs that manage water resources and practice market-oriented production. A project cross-cutting risk that might impact beneficiaries and stakeholders is related to weak/deficient levels of coordination among the multiple entities that need to be involved in the preparation and implementation of the project. This risk will be managed through signed agreements ("convenios") that will set out the roles, functions and formal commitments of each participating entities. Considering the risks above as well as the measures that will be put in place to mitigate them, the task team has determined the Social Risk Rating to be moderate.

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

This standard is relevant. The proposed project seeks to implement 130 subprojects that will be conducted nationwide in the Costa, the Sierra, and the Selva, in 19 departments. The proposed irrigation scheme targets small and medium-size family farming producers and the Client estimates that the project will impact 8,000 hectares directly, which is expected to benefit 7, 763 families. As the exact scope and locations of most of the 130 subprojects will be defined only during project implementation, the project has adopted a framework approach to E&S risk management. As such, a draft version of an Environmental and Social Management Framework (ESMF) is being

developed, consulted, and will be disclosed before appraisal to provide information on requirements and processes for E&S due diligence of the planned investments under the project during the implementation stage.

The ESMF provides, inter alia: (i) E&S conditions of the locations where the project will take place; (ii) identification and assessment of the potential direct and indirect E&S risks and impacts from the proposed investments, based on the typology of activities and location, (iii) a characterization of potential contextual E&S risks and issues which may be present in different beneficiary locations, including potential SEA/SH risks, risk of child labor, and potential intensification of social conflicts over the proposed water usage measures; (iv) identification of applicable national legislation and ESF requirements; (v) management and mitigation measures for potential E&S risks and impacts, both during construction and operation, including E&S management measures to prevent risks and impacts arising from reservoir construction, rehabilitation and/or operation, and measures aimed at preventing child labor, when it could endanger and/or harm the children involved, among the project beneficiaries; (vi) identification of vulnerable groups, and specific measures to prevent adverse impacts on them and improve their inclusion opportunities; (vii) risk assessment of existing dams near the subprojects; (viii) details of the requirements for site-specific Environmental and Social Management Plans (ESMPs), and an outline/template of these, based on the relevant WB ESSs and WBG Environmental, Health and Safety (EHS) Guidelines (General and applicable specific guidelines for Agribusiness and Food Production); (ix) E&S monitoring and supervision guidelines for project implementation; (x) implementation arrangements, capacity building measures, and budget for E&S management; and (xi) E&S provisions for bidding documents for contractors.

Additionally, based on the scope and nature of the proposed activities under Component A, in order to keep the project within a Moderate risk level, the ESMF will include: (i) a screening procedure for E&S risk classification of subprojects' activities; and (ii) an exclusion list of activities to be excluded as they may result in long term, permanent or irreversible negative environmental and/or social impacts and impacts on highly sensitive areas in terms of their biodiversity and cultural heritage value. The exclusion list may include activities and criteria that could categorize a subproject as substantial or high risk, such as: (i) activities within protected natural areas or ecologically sensitive areas; (ii) interventions in sensitive cultural heritage sites or sites of archaeological importance; (iii) works downstream of a dam likely to cause risks or direct impacts to the intervention implementation site; (iv) acquisition or cultivation of products prohibited by local legislation or internationally recognized standards; (v) activities leading to involuntary physical and/or economic displacement; (vi) activities involving forced labor, or child labor bringing harm to the children involved; (vii) interventions leading to the type of impacts that would require a process of free, prior and informed consent (FPIC) for indigenous peoples, as per para. 24 of ESS7; and (viii) interventions in areas of known conflict over lands and/or water resources.

The client will consider gender-based violence issues as part of the project social management and identify available service providers that can be used as part of a referral pathway for any GBV case possibly identified within the context of the project activities. The list of service providers would be included in the protocol to attend cases of SEA/SH and will be in annex of the final versions of the LMP and SEP, as applicable, and will apply to both workers (direct and indirect) and the population in general.

The borrower is preparing and incorporating into the ESMF a Social and Gender Assessment (SGA), an Indigenous Peoples Planning Framework (IPPF), and a Protocol to verify that all land cession is voluntary as per ESS5 for each of the subproject to be financed. The SGA will allow the borrower to identify potential barriers that might limit the

participation of groups whose interests could be under-represented in the already established farmers user groups and WUOs, such as women, elders, youth, persons with disabilities, indigenous peoples, etc., and recommend measures to maximize their inclusion in project preparation and implementation. Moreover, barriers limiting women from accessing offered training and technical assistance and measures to maximize their participation in these activities will also be addressed as part of the SGA. The SGA is based on secondary sources and primary field information from PSI's field personnel. The draft SGA will be disclosed before appraisal and completed with targeted interviews/focus groups with key informants and local authorities as required. The results of these consultations will be incorporated into the final version of the SGA to be published as specified in the ESCP.

As Technical Assessment (TA) activities are embedded in the overall's project scope and purpose, the requirements set out in paragraphs 14-18 of the ESS1 will also be applied to any TA activities as relevant and appropriate to the nature of the risks and impacts. Therefore, consultancies, studies, capacity-building activities, trainings and any other types of TA activities under the project will conform to ToRs that are acceptable to the Bank, and will be consistent with the relevant ESSs. The Bank's TOR review and no objection processes will be described, as necessary, in the Project Operational Manual. No E&S risks arising from TA activities are foreseen; however, this will continue to be evaluated during the implementation of the project. The ESMF will also be presenting the overall E&S approach TA activities.

Site-specific ESMPs will be prepared by the borrowers to address the E&S management for each of the sub projects. ESMPs will contain the measures set out in ESS1 and will be developed in accordance with: (i) E&S management considerations established by local legislation, including the measures outlined in the respective E&S permits issued by the authorities; and (ii) all E&S management measures detailed above for the ESMF and relevant ESSs, including local stakeholder engagement activities. Aiming to ensure the content and scope of the ESMPs, TORs and project bidding documents shall be prepared in a manner acceptable to the Bank.

As required under ESS1 the PSI has prepared an Environmental and Social Commitment Plan (ESCP) that includes all material actions and measures to be undertaken by the borrower during Project implementation, along with timeframes for their completion and monitoring and evaluation arrangements.

In sum, before appraisal the borrower will develop, consult, and disclose the following core project instruments to assess and manage E&S risks and impacts: (i) a draft ESMF; (ii) a draft ESCP; and (iii) a draft Stakeholder Engagement Plan (SEP). In addition, the borrower will develop the following instruments as annexes to the ESMF: (i) a draft SGA; (ii) a draft IPPF; (iii) a draft LMP, and a Protocol to verify that all land cession is voluntary, which will be disclosed separately from the ESMF to facilitate stakeholders review of the risks and proposed measures to manage these issues. Site-specific ESMPs will be consulted and disclosed before proceeding with activities. Engineering & design plans will be grounded in existing national laws and the WB's ESS. In areas with the presence of indigenous peoples, the project will implement mitigation measures as required in accordance with the IPPF.

The start of works on a subproject under Component A will be subject to compliance with the E&S requirements of the subproject's E&S instruments, and local stakeholder engagement activities, in a manner acceptable to the Bank.

For the purpose of properly addressing the ESSs requirements, and as a result of the broad scope of the project in terms of geographical size and the manifest complexity of the inter-institutional coordination required for the

preparation and implementation of the subprojects, the PSI has proposed the creation of a PIU staffed according to information presented in section D.2. The PIU will build the capacity of contractors and supervision firms by deploying a training program. The ESMF and ESCP spell out these institutional arrangements.

ESS10 Stakeholder Engagement and Information Disclosure

This Standard is relevant. The proposed project will have multiple stakeholders with different levels of involvement and/or interests. Key stakeholders will include direct beneficiaries such as: (i) the small and medium agriculture and livestock producers and their families (an estimated 7,763 families), that will benefit from access to improved irrigation systems and strengthening of their technical and productive capabilities in irrigation, crop management and business management; (ii) farmer user groups that have been created and will be assisted in the management and administration of the improved irrigation systems (130 groups); (iii) producers trained and accredited as irrigation operators (an estimated 650 producers); (iv) irrigation managers, technicians and users of the irrigation systems (an estimated 35,000 persons), irrigation Water User Organizations (WUOs) that will be involved in the project through strengthening of their knowledge of irrigation good practices and management to improve operational efficiency of the irrigation systems and services (329 WUOs); and (v) other (non-irrigation) water users that might share the same common hydraulic system with the agriculture producers, among others.

These stakeholders are located in 19 departments covering coastal, highland mountains and Amazon rainforest areas. These stakeholders will feature a diversity of socioeconomic characteristics and profiles and will therefore require differentiated approaches to engage, consult and inform them in an inclusive and culturally appropriate manner. Preliminarily, these stakeholders are expected to include men, women, young, elderly, indigenous peoples, afro-descendants, members of indigenous rural communities (Comunidades Campesinas), independent producers, producers' associations, and other economic agents that rely on water use. Furthermore, local authorities involved in economic development and the management of water resources will also need to be engaged. Efforts will be made to identify and engage during preparation and implementation, in an inclusive and appropriate manner, members of other vulnerable/disadvantaged groups, such as people with disabilities, illiterate people and/or those with low levels of education, the poorest, and migrants/refugees, among others, who could potentially be affected adversely and/or excluded from the project potential benefits.

Between 2017 and 2021 PSI carried out actions to raise awareness of the national irrigation program that included information sharing and consultations with key stakeholders. These included national and local water users boards (Juntas de Usuarios de Agua) interested in promoting the implementation of improved irrigation, indigenous rural community boards, Agrarian Directorates of Agriculture and representatives of regional government across the country, and farmers and farmer users organizations interested in implementing improved irrigation systems (both on-farm and off-farm). All of these stakeholders have received information regarding the program (benefits and eligibility criteria, among other information) and regarding proposed subproject design (type of irrigation system, infrastructure, equipment, conditions and commitments). As a result of this socialization, PSI has identified and prioritized 130 demand-driven subprojects to be financed by the project, of which 39 subprojects are in indigenous rural communities. As the subprojects are at different stages of development, the number of information sharing and consultation activities carried out by PSI with these stakeholders varies. Previous activities have been reflected in the draft SEP, although supporting documentation for these activities is limited.

During project preparation, PSI will carry out consultations about the overall project design, the project's E&S risks, and the E&S instruments being prepared and their E&S management measures. Such consultations will start before appraisal and are expected to be completed prior to negotiations. These shall include, at a minimum, representatives of national and regional associations representing rural agricultural communities and farmer associations from the Andean region, national organizations working with women in the agricultural sector, and key government agencies involved in the project, and civil society organizations, among others to be identified as part of the SEP's stakeholder mapping exercise. The stakeholder engagement activities planned to be carried out after appraisal, and those anticipated during project implementation, are described in greater detail the draft SEP.

The results of these activities under ESS10 and feedback received from stakeholders before appraisal will be included in the draft SEP to be published prior to appraisal. Results of the consultations activities during project preparation will be described in the SEP. PSI will disclose a draft Stakeholder Engagement Plan (SEP) to map out the various project stakeholders, share project information, and mitigate potential social risks and/or misconceptions about project impacts and benefits. The draft SEP will be disclosed prior to appraisal with the objective of receiving feedback on the project's E&S instruments, and the proposed management arrangements as documented in the ESMF and the SEP. These will allow gathering feedback from the identified stakeholders, as well as others interested parties. The SEP explains in more detail (i) who the potential key stakeholders are; (ii) how they are to be engaged; (iii) how often the engagement will occur throughout the project; (iv) how disclosure will take place throughout the project; (v) how feedback will be solicited, recorded and monitored over the project; (vi) who will be charged/responsible with this engagement; and (vii) SEP timelines and costs, among other operational details.

The successful development of improved irrigation systems in the participating regions will require strong ongoing engagement with various institutional stakeholders that will be involved in project activities through sectorial authorities and agencies (MIDAGRI, AGRO RURAL, AGROIDEA), intersectoral authorities such as the National Water Authority (ANA), and regional and local governmental authorities and/or agencies such as the Regional Governments (19) and Regional Agrarian Directorates of Agriculture (19).

A project-level Grievance Redress Mechanism (GRM) will be established and, during implementation, managed by the project's E&S Team. It will be described in details in the final SEP and be operational upon project effectiveness. The project GRM will take into account traditional conflict resolution mechanisms, language and other considerations to facilitate access for IPs in a culturally appropriate manner. Particular attention will be paid to ensure that the GRM will be available and inclusive and easily accessible to all stakeholders, including vulnerable ones, and that it keeps track and follows up on all project-related grievances, in a prompt manner. The GRM will have a policy of zero tolerance to retaliation and will allow for confidentially and anonymity of stakeholders submitting grievances, if they so require, and will specify the means through which the available channels to receive complaints will be disseminated. The GRM will have separate sections to treat different types of grievances in their own specificity, including procedures to address project-related complaints, SEA/SH complaints, IP complaints, among others.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

This standard is relevant. Project implementation will involve direct workers (PIU) and contracted workers. The project will be implemented by staff from the PSI and additional consultants could be hired. It is likely that contractors will be required for civil works for the irrigation infrastructure and equipment. Implementation of infrastructure and equipment activities are likely to require approximately 20 skilled workers per subproject, for a total of 130 subprojects, as part of the contractor's crew. Moreover, unskilled workers will also be required, and they will be hired locally and remunerated by the contractor. Based on that information, no significant risks related to labor influx are expected. It is not foreseen that community workers will be involved in the works under Component A.1. It is not expected that primary supplier workers will be involved in subprojects.

No direct or contracted workers under 18 years old will be hired, and this will be validated at the time of hiring. At the same time, child and formative labor are prevalent in the agricultural sector in Peru, particularly in rural and indigenous communities. The project will abide by the principle of cultural pertinence regarding child labor, whenever it does not endanger and/or cause harm to the children involved, and apply measures aimed at preventing child labor that would keep children and adolescent from attending school, among the participating organizations. This will include significant engagement with community-based beneficiaries of the improved irrigation schemes, where needed and as set out in the consulted Indigenous People Planning Framework (IPPF), during project execution (see ESS7).

Peru has a relatively comprehensive framework for labor and working conditions in place, which at a normative level is overall consistent with the provisions of ESS2. However, during the due diligence process, the Bank identified a risk associated with the implementation of the labor norms, particularly regarding the use of an incorrect modality in hiring project workers, where project workers could be hired under civil contracts for external consultancy services, even though in practice they perform work that corresponds to a full-time employment relationship instead, which would deprive project workers of the protections they are due under national law and ESS2.

To address that and other labor risks, including those related to occupational health and safety of project workers the client has prepared draft Labor Management Procedures (LMP), to be disclosed prior to appraisal, which explain the different types of workers and risks according to the activities they may perform under the project. PSI will solicit feedback on the LMP document immediately after its disclosure as indicated above in the ESS10 section. The LMPs lay out requirements to promote transparency in terms and conditions of employment, fair treatment, non-discrimination, and equal opportunity; minimum working age and measures to prevent the employment of children among project workers; measures to prevent the use of all forms of forced labor; and worker's organizations. In addition, the LMP will include a GRM specifically for all project workers to ensure they have a mechanism in place for submitting complaints, grievances and/or feedback.

Among other elements, to ensure health and safety of workers during the construction and implementation phases of the project, the LMP and ESMF will also include a generic Occupational Health and Safety Plan (OHSP) for likely civil works activities under Component A., in line with the WBG general guidelines. Some of OHS hazards associated with the project activities may include: (i) operation of heavy machinery; (ii) slips, trips, and falls; (iii) hazardous material handling; (iv) exposure to hazardous substances; and (v) traffic safety. The OHSP will include generic measures addressing these and other types of typical OHS issues, as well as procedures for incident/accidents investigation, reporting and recording, emergency preparedness and response procedures, and continuous trainings for workers. It will also contain measures to address potential risks and impacts that may arise from the interaction between project

workers and local communities. To ensure that the project promotes the safety of women, and to avoid beneficiaries from becoming targets of sexual harassment or assault, the LMP will include a code of conduct, and both the labor GRM and the overall project GRM will include specific grievance channels, to be managed by trained personnel, for potential complaints related to gender-based violence (GBV) in the forms of sexual exploitation and/or abuse (SEA) and sexual harassment (SH). Other health-related issues for workers are included in the ESMF as described under ESS1. All project workers will adhere to the Workers' Code of Conduct in their relationships with the beneficiary community populations. Contractors and subcontractors will be requested to expressly abide by the Code of Conduct.

Government civil servants are expected to work in connection with the project, whether full-time or part-time. They will remain subject to the terms and conditions of their existing public-sector employment agreement or arrangement unless there has been an effective legal transfer of their employment or engagement to the project. ESS2 will not apply to such government civil servants, except for the provisions relating to child and forced labor and Occupational Health and Safety.

ESS3 Resource Efficiency and Pollution Prevention and Management

This standard is relevant. The proposed investments include civil works throughout the territory. Nevertheless, project activities and civil works investments are not expected to be significant sources of pollution, emissions (including GHG's), or use of resources as considered by ESS3. The types of potential pollution sources include construction waste, runoff from construction sites and from civil works activities, use of materials, including hazardous materials for construction and petroleum-based products for vehicles and machinery, and air pollution from operation of machinery and vehicles.

Pollution, air emissions, and noise: These may be generated during the construction phase from the use of heavy vehicles, machinery, and construction activities. The project design will be geared to incorporate best practices to reduce discharge and waste and is not expected to imply major potential for air pollution, disturbance by noise, or other forms of pollution. The project is not expected to be a large user or generator of hazardous materials, therefore measures will be taken to ensure minimization of adverse risks and impacts on human health and the environment including proper storage, handling, use, and disposal of hazardous, flammable or potentially contaminating wastes. The ESMF defines institutional responsibilities and guides the preparation of site-specific E&S management plans as needed, including dust suppression, vehicle and heavy machinery maintenance, and a sufficient budget for monitoring equipment and capacity-building regarding pollution prevention and emergency incident response among other measures. Subproject ESMPs to be prepared will include these measures as necessary and the ESFM outlines the structure and substance of a standard ESMP.

Vegetation and soil: Soil removal and clearance of vegetation may occur during the construction of reservoirs and water mains. All construction material needed for this type of infrastructure (sand, stones, timber, etc.) will be obtained from licensed quarries and certified timber suppliers.

Waste management: Construction waste will include mostly waste from excavated soil and debris. Hazardous waste, consisting of hydrocarbon oils, could also be generated from construction machinery and vehicles. Any waste generated by project activities will be disposed of according to national regulations, Good International Industry

Practice (GIIP), and EHS Guidelines. The ESMF includes generic measures for the management of hazardous material, and the subproject ESMPs will also include specific measures for waste management.

Use of Pesticides and fertilizers: Where potential environmental liabilities are identified as part of subproject level assessment and planning, these shall be assessed and, where necessary, site-specific remedial plans developed as part of subproject level ESMPs and executed under the project. These requirements are outlined in the ESMF. The environmental and health risks associated to the use of agrochemicals will be assessed in the ESMF and guidance will be provided on the development of subproject-specific Pest Management Plans (PMP). In addition, measures will be defined to prevent and mitigate against potential adverse health impacts on project beneficiaries and adjacent communities. WBG EHS Guidelines on Agribusiness/Food Production, and Chemicals are considered in the ESMF. While the project will not finance the use of chemical fertilizers and pesticides, it will minimize and control its use in the agricultural activities and promote the use of less hazardous materials (i.e., organic fertilizers) to the extent possible (one of the lessons learned from the previous project with the PSI is the PSI's emphasis of the importance of integrated pest management practices and the inclusion of PMPs into the Operations Manual).

Water use: Project water requirements are expected to be limited and water sources are expected to come mainly from surface and rainwater and these resources will be used for irrigation purposes as part of the agricultural activities. By promoting improved irrigation, the very implementation of the project implies the mitigation of non-rational water use, to which end the project will include investments for the construction of efficient irrigation systems.

ESS4 Community Health and Safety

This standard is relevant. Various activities proposed under Component A may expose communities to health and safety risks, especially for those located immediately or close to construction sites and activities. The potential risks and impacts to nearby communities will be further assessed during project implementation, as part of the ESMPs once the exact locations of the project construction activities are determined. Risks include potential for accidents from increased traffic of project vehicles, machinery, and trucks. Some impacts resulting from civil works that may cause inconvenience to local communities may include air emissions and odors, noise, dust, vibration, hazardous materials, closure of roads, traffic disruptions, and others. The ESMF identifies and lays out generic measures to minimize community risks to these and other issues, while detailed management measures will be reflected in the site-specific ESMPs. Additionally, measures to reduce road and pedestrian accidents around or near-by construction/rehabilitation of irrigation infrastructure and equipment are included in the ESMF. Site-specific ESMPs will include traffic management plans and measures for local communities to ensure pedestrian safety, as well as requirements for the adoption of signage and safety barriers in or near construction zones and safe storage arrangements for construction machinery and equipment, measures to avoid the spreading of COVID-19 and other potential infectious diseases, and GBV and SEA/SH risk management procedures. Due considerations will be put to the specific needs of vulnerable groups such as elderly, women, children and persons with disabilities.

During the concept note the Bank identified that existing water dams in Peru could potentially affect anticipated subprojects due to unexpected failures caused by fortuitous events, consequently, during project preparation a consultancy was carried out to determine the potential risks and impacts along with the magnitude of their impact on the subprojects' implementation areas. The consultancy revealed that 4 planned subprojects are located close to

large dams; yet, according to the evaluation of the possible routes of impact or flooding due to dam failure, none of the subprojects planned by the PSI may present flood risks, and therefore E&S risks or impacts to external dams to subprojects are not considered of significance.

Additionally, the project will finance the construction, rehabilitation and operation of small water reservoirs, which could involve social, safety, and environmental risks. According to available information, the subprojects' reservoirs will: (i) reach heights of 1 to 4 meters; (ii) have an average storage volume of 2,000 cubic meters; and (iii) regardless to its small volume retention, they could not cause any safety risks according to ESS4, and therefore these small reservoirs to be financed are considered facilities that do not qualify as either "large dams" or "small dams" under ESS4. Within the ESMF, the PSI identified the E&S risks and impacts inherent to the construction and operation of these reservoirs, being of relevance the probability of falls to different levels and drowning of workers and the community, therefore, the measures detailed in the ESMF and to be considered also in the ESMPs, include the perimeter fencing of the reservoirs, signage and placement of life-saving elements during construction and operation of said reservoirs. The ESMF also demands that dam safety measures for the reservoirs will be in compliance with ESS4 (e.g., dam safety measures for new reservoirs designed by qualified engineers in accordance with GIIP will be adopted and implemented). On the other hand, according to an analysis performed by PSI technical staff, an abrupt failure of these reservoirs due to fortuitous events would not have significant E&S risks or impacts, as the anticipated flooding exposure would be equivalent to a film of 50 cm of water, which is similar to the amount of water supplied to the irrigation area during a gravity-fed irrigation operation.

The SEA/SH risk is not expected to be significant, particularly considering the low number of skilled outside workers, the use of local workers (semi skilled and unskilled) as much as feasible, the implementation of a code of conduct with explicit SEA/SH provisions, awareness raising and training activities expected for all workers regarding VBG and SEA/SH, and elaboration and implementation of provisions to attend cases of SEA/SH complaints, including a list of available GBV service providers.

In recent times, PSI field personnel have not reported any conflicts between GGRTs and other water users that belong to the same WUOs, over water use in improved irrigation projects already in implementation that are under their purview (Cajamarca, Ancash, Ayacucho, Lambayeque, Highlands of Lima). However, internal disagreements/ grievances over deficient operation and management within operating WUOs, where GGRTs are inserted, have been observed in Ancash, Ayacucho, and Lima Sierra. Conflicts could potentially occur in areas where mining is being carried out such as in Cajamarca and Moquegua; however, PSI personnel reported no conflicts of that nature in the areas where PSI will execute subprojects. Thus, as part of the E&S supervision, PSI will document and report to the Bank on these issues, from the time subprojects start to execute up to the time GGRTs initiate their business plans and farming activities under the new irrigation schemes (estimated by the 2nd year of the project).

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

This standard is relevant. So far, no risk of involuntary physical and/or economic displacement (including involuntary resettlement) or involuntary restriction of land and/or water use has been identified as part of the project. Rather, the required areas of land to be used for off-farm infrastructure and other project works are expected to be donated on a voluntary basis by the participating farmers and/or acquired as part of a freely negotiated sale and purchase agreement among all members of the corresponding GGRT. The processes associated with the voluntary cases of land

acquisition will be managed under ESS1, as specified in paragraph 6 of ESS5. The ESMF will incorporate a Protocol to ensure that the participants receive adequate information about the voluntary nature of their donation, in line with footnote 10 of ESS5, and to prevent any form of coercion as part of the donation.

The Protocol specifies that (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land.

This Protocol will also guide any freely entered sale and purchase transactions of required lands. PSI will be sure to maintain a transparent record of all transactions made and agreements reached. Meantime, any impacts on local livelihoods that are not a direct result of land acquisition or land/water use restrictions resulting from the project will be treated under ESS1. However, if during its implementation stage the Project were to face situations such as voluntary land transactions that result in the displacement of persons, other than the seller, who occupy, use, or claim rights to the land in question, those cases will need to be managed in accordance with the applicable provisions of ESS5.

The Protocol will be incorporated into the ESMF as an Appendix. However, it will be disclosed separately to facilitate access to interested stakeholders.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is relevant. The project is expected to reverse the negative impacts of existing land-use practices through the application of sustainable agricultural practices that will contribute to reducing erosion and water loss while improving biodiversity conservation of the entire ecosystem; therefore, it is expected that the impacts related to environment from the proposed activities are positive. Notwithstanding, potential impacts to biodiversity and living natural resources, such as the potential replacement of native species by non-native crops with higher market demand, are expected. Consequently, given the diverse ecosystems across the country, the ESMF provides guidance on subproject-level biodiversity screening, assessment, mitigation, and management measures to ensure that project activities do not alter or cause destruction or degradation of any critical or sensitive natural habitats, especially forests and wetlands.

Project activities will be conducted in previously disturbed areas (modified habitats according to the ESF), therefore no activities are expected within natural protected areas, ecological sensitive habitats, either within its direct or indirect area of influence. The exclusion list, to be incorporated as part of the ESMF, will clearly state the prohibition of financing projects within these environmental sensitive areas, based on ESS6 requirements.

Where a project contemplates the direct catchment of water from natural sources (rivers, streams, lagoons, lakes, subway sources, among others), it must be ensured that the captured volume of water does not negatively impact the existing forms of life associated with the water source.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

The standard is relevant. The indigenous peoples (IP) to be involved in the project have been identified by the PSI as Andean peasant communities, or “comunidades campesinas”. While some of the participating communities (about 5%) are located in the upper rainforest part of the Amazon region, this will be in areas where no Indigenous Amazonian communities, or “comunidades nativas,” are present.,. The IPs that are expected to benefit directly from the Project include 33 indigenous communities “comunidades campesinas” located both in the Andean and upper rainforest areas.

The subprojects that involve IP are demand-driven by IP farmers who are already making use of surface gravity-based irrigation systems, operate with water licenses/permits, belong to overarching WUOs that manage water resources, and practice market-oriented production. Given these characteristics, the risk of adversely impacting ancestral traditional knowledge with the TA considered under Component A.2 is low.

Nonetheless, this will be revalidated when site-specific management instruments are being developed for the subprojects that involve GGRTs in "comunidades campesinas". Possible risks related to impact on indigenous traditional agricultural knowledge, as well as possible adverse impacts from the new national water use strategy (whose implementation is planned to be supported under Component B.), will be assessed to make sure that IP are involved throughout the project cycle and their concerns and preferences are addressed through meaningful and culturally appropriate consultation and project design. Moreover, PSI will prepare, consult on and adopt Indigenous Peoples Planning Framework (IPPF) that will summarize the consultation results and describe how IP issues have been addressed in project design and how the feedback received has been applied to it. These engagements will furthermore be prioritized and reflected in the SEP. The project’s IPPF will describe the cultural pertinence measures to be implemented during project execution, where needed. The project is not expected to support activities whose risks would require the acquisition of Free, Prior and Informed Consent (FPIC) on the part of any of the participating IP, given that none of the conditions in para. 24 of ESS7 are or are expected to be triggered.

The IPPF that PSI has prepared is consistent with ESS7 and will be publicly disclosed before Appraisal. Although the IPPF will be incorporated into the ESMF as an Appendix, it will be disclosed separately to facilitate access to interested stakeholders. The final version of the IPPF (revised to incorporate the outcome of consultations with IP) will be adopted and disclosed in accordance with the timeframe in the ESCP (within 30 days of effectiveness). Arrangements for ongoing consultations during project implementation and monitoring will also be described.
be described.

ESS8 Cultural Heritage

This standard is relevant. According to the available information some of the potential project areas, mainly in the Highlands area, may include tangible and intangible cultural resources. The ESMF includes provisions for subproject-level screening and assessment of any known sites of cultural or historic importance which may be impacted locally, as well as identification of any sites of cultural/social importance for local communities. The ESMF will include a specific provision to avoid any potential damage to cultural heritage; therefore, the ESMF’s exclusion list will contain guidelines for not financing projects that may affect areas of archaeological, cultural, and heritage interest. The

ESMF, and all future site-specific ESMPs as needed, will furthermore include, inter alia: (i) Chance Finds Procedures for civil works, and construction contracts will include clauses requiring civil contractors to take proper protective measures in case cultural heritage sites are discovered, including to stop construction activities if cultural property sites are encountered during construction; and (ii) a Cultural Heritage Management Plan (CHMP) for civil works outlining mitigation measures to be considered to avoid or reduce impacts on community cultural heritage sites directly affected by the project. All site-specific ESMP measures will be reflected in corresponding bidding documents and construction contracts.

The Chance Finds Procedure sets out how chance finds associated with the project will be managed and include a requirement to: (i) notify relevant authorities of found objects or sites by cultural heritage experts; (ii) fence-off the area of finds or sites to avoid further disturbance; (iii) conduct an assessment of found objects or sites by cultural heritage experts; (iv) identify and implement actions consistent with the requirements of this ESS and national law; and (v) train project personnel and project workers on the chance finds procedure.

While the risk of loss of valuable indigenous agricultural knowledge is low, the inclusion of any relevant cultural pertinence measures will be included in the IPPF, as discussed in the ESS7 section.

ESS9 Financial Intermediaries

This standard is not relevant, as the project will not make use of Financial Intermediaries.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways	Yes
OP 7.60 Projects in Disputed Areas	No

B.3. Reliance on Borrower's policy, legal and institutional framework, relevant to the Project risks and impacts

Is this project being prepared for use of Borrower Framework?	No

Areas where "Use of Borrower Framework" is being considered:

None.

IV. CONTACT POINTS

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Implementing Agency(ies)

Implementing Agency: Programa Subsectorial de Irrigaciones - PSI

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VI. APPROVAL

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Practice Manager (ENR/Social)	Maria Gonzalez de Asis Cleared on 26-Jan-2023 at 18:27:57 GMT-05:00