Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 02/04/2020 | Report No: ESRSA00442
BASIC INFORMATION

A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Project ID</th>
<th>Parent Project ID (if any)</th>
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<tr>
<td>Honduras</td>
<td>LATIN AMERICA AND CARIBBEAN</td>
<td>P169901</td>
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<tr>
<th>Project Name</th>
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<td>Water Security in the Dry Corridor of Honduras</td>
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<tr>
<th>Practice Area (Lead)</th>
<th>Financing Instrument</th>
<th>Estimated Appraisal Date</th>
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Proposed Development Objective(s)

Improve water service delivery and strengthen water governance in select areas of the Dry Corridor of Honduras.

Financing (in USD Million) Amount

| Total Project Cost | 85.00 |

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]

Water security faces the following binding constraints: (i) limited water resources management (WRM) information and planning tools; (ii) weak institutional structures and undefined/unclear roles and responsibilities in WRM; (iii) lack of capacity to plan priority infrastructure investments; (iv) depletion of water resources due to contamination of surface water resources and saline intrusion in aquifers; and (v) insufficient hydraulic infrastructure and/or poor maintenance of the existing one.
The proposed Project is in line with the GoH’ vision and with the focus areas of the FY16–FY20 World Bank Group’s Honduras Country Partnership Framework (CPF) through: (i) fostering inclusion; (ii) bolstering conditions for growth; and (iii) reducing vulnerabilities to climate change with a view to enhancing resilience. The overall cost of the proposed Project is US$85.0 million, financed by an IDA credit of US$70.0 million and an indicative US$15.0 million in counterpart funding from the central government, to be implemented over a 5-year period (2021–26).

Component 1: Strengthening institutional capacity for water resources governance and management (total cost US$7 million). The objectives of this component are (i) to strengthen the hydromet network, water resources information systems, and capacity development; and (ii) to develop basic instruments and tools necessary for transparent WRM and better water governance. Subcomponent 1.1: Strengthening water resources information. This subcomponent will finance, among others: (i) rehabilitation and acquisition of hydroclimatic stations, water monitoring equipment and data centers as well as O&M information platforms and plans to support the network; and (ii) capacity development for technical staff and participating communities on integrated water resources management (IWRM). This subcomponent will be implemented through: (i) TA for the development of information systems and capacity building; and (ii) the acquisition of equipment and minor civil works. Subcomponent 1.2: Water governance and capacity building. This subcomponent will support a shift toward an integrated and participatory planning and water management approach through institutional strengthening and coordination, following a bottom-up approach. This subcomponent will finance mainly TA activities for: a) supporting the elaboration of watershed management and protection plans, and formal designation (through legislation) of water-producing zones, focusing on the areas targeted through subcomponent 2.1; (b) strengthening the coordination between municipalities, water/irrigation organizations and upstream stakeholders; (c) supporting the establishment of a water basin board for the Nacaome Basin and the developing a road map for the establishment of the National Water Authority (ADA).

Component 2: Scaling up resilient hydraulic infrastructure for water security in the Dry Corridor (total cost US$70 million). This component aims to implement prioritized infrastructure projects for resilient water management. Subcomponent 2.1: Promoting an integrated and multipurpose micro-watershed management approach in the Dry Corridor. This subcomponent will finance consulting services, goods, and works necessary to promote the adoption of a micro catchment approach to the planning and development of integrated water security systems (SIAS) to improve watershed management at the local level. Among others, this subcomponent will finance: (i) the development and construction of the SIAS; (ii) TA for training of the Project beneficiaries on O&M and agriculture aspects, as well as to support development and implementation of upstream catchment protection and management programs. The integrated water security systems will include: for all systems, regardless of their purpose, water storage and protection of the upstream catchment area; for rural water supply systems, a water treatment plant (WTP) a distribution system, and sanitation units (cofinanced by the communities); for irrigation systems, a distribution system, agriculture equipment, and a drip irrigation system; for urban water supply systems, the expansion and/or rehabilitation of bulk water systems. A total of four SIAS already have well-advanced designs. The design of the other SIAS as well as related infrastructure works from existing ones, particularly infrastructure aimed at resolving tensions derived from the competition over the use of water (e.g. design of the WTP in Cane), will be prioritized and completed during the first year of project implementation. Subcomponent 2.2: Maximizing the benefits of the multipurpose José Cecilio del Valle (JCV) Dam in the Nacaome Basin. This subcomponent will finance infrastructure modernization in the Nacaome Basin—the JCV Dam including: (i) the installation of gates on the JCV Dam spillway to increase storage, improve reservoir operation, and increase energy generation; (ii) a water treatment plant and dedicated pipeline to increase water quality and supply for downstream users. Towards these ends, this subcomponent will finance the
following: (a) consultancy services for (i) feasibility studies, technical designs, and preparation of bidding documents for construction and supervision; (ii) an environmental and social impact assessment study (ESIA); (iii) resettlement action plans, as needed (RAPs); (iv) the creation of a panel of experts on dam safety issues (to consist of a hydrology and hydraulics specialist, concrete dam specialist and hydromechanical equipment specialist) for reviewing the studies and designs; (b) the supply and installation of the spillway gates; and (c) the construction of the water supply system. The subcomponent will also finance implementation of associated environmental and social mitigation and management plans as recommended by the ESIA study. This is expected to include, among other aspects, a watershed management plan to support landowners in the catchment of the dam in restoration, reforestation and sustainable land use management practices. Regarding dam safety, this subcomponent will finance improvements in the JCV Dam safety plan—more specifically, the preparation/completion of specific O&M manuals for a monitoring plan, a publicly approved emergency preparedness plan (EPP), and an emergency action plan (EAP) for high spillway discharge and dam break contingencies to warn the population and implement partial or full evacuation, as necessary. The EPP will include a dam break analysis as well as the definition of security areas around the reservoir, the dam itself, and individual structures.

Component 3: Project management and M&E (total cost US$8 million). This component will finance various aspects related to project coordination and management, including environmental and social risk management, training and capacity building; stakeholder outreach for awareness on the project and citizen engagement mechanism and grievance management system; and other Project-related strategic studies to contribute towards for future project preparation.

Component 4: Contingent Emergency Response (CER) (US$0 million). This component will provide immediate response to eligible emergencies, if and when necessary, through the reallocation of Project funds.

D. Environmental and Social Overview

D.1. Project location(s) and salient characteristics relevant to the ES assessment [geographic, environmental, social]
Regional context: The project will be located in the Dry Corridor, a part of Honduras on the Pacific side that is home to a disproportionate percentage of the country’s population living in poverty, and is a region historically susceptible to extreme weather (droughts and floods). In contrast to Honduras’ Caribbean lowlands, the Dry Corridor’s mountains rise abruptly from the sea to over 5000-foot altitudes, acting as a natural barrier to rainfall during much of the year, except for a short but heavy rainy season. More than half of Honduras’ poor and two-thirds of its extreme poor live in rural areas of the Dry Corridor, including Indigenous Peoples (IPs). The advent of extended hot, dry periods and the reduced predictability of the rainy season, exacerbated by climate change, has had disastrous consequences on the cultivation of basic grain crops, such as maize, which are part of the region’s subsistence agriculture, and so consequently the poorest farmers are disproportionately impacted. Despite an abundance of water during the rainy season, there is inadequate storage infrastructure to compensate for uneven seasonal water distribution. The risk of failing to meet water demand is particularly acute during the February to April dry season, when available water resources fall short of demand. During these months, many communities are forced to purchase drinking water, often paying exorbitant prices that approach or exceed typical monthly incomes for many households. Environmentally, the region is under pressure. Deforestation and land degradation contribute to high runoff and low infiltration, which in turn contribute to seasonal flooding problems during heavy rains, exacerbating further the land degradation trends.
While there are no official disaggregated data on indigenous peoples and their socio-economic situation, according to the Report of the Special Rapporteur on Indigenous Peoples, IPs exhibit higher rates of poverty and extreme poverty relative to the non-IP population, as well as poorer access to basic services: 72 per cent of Indigenous households, compared to 41.6 per cent of households nationally, cannot afford a basic food basket, which puts them on the extreme poverty line; the worst percentages are found among the Tolupán (93.9 per cent), the Chortí (87.4 per cent) and the Pech (84.4 per cent). Of the Indigenous child population, 88.7 per cent live in poverty, while more than 88 per cent of Tolupán, Lenca and Pech children live in extreme poverty. The average number of years of schooling among IPs is also lower, at 5.7 years against a national average of 7.5 years, and, in the case of the Chortí, Pech, Tolupán and Lenca, under 5 years. The average monthly income of indigenous people amounts to 36.8 per cent of the national average, and much less in the case of the Tolupán, Chortí, Pech and Lenca. IPs also face discrimination, which makes them vulnerable in general to unfair and precarious working conditions.

The IP groups residing in the Dry Corridor include: the Lenca, who reside mainly in the western departments of Intibuca, La Paz and Santa Barbara, and comprise the largest indigenous community in Honduras, with a population of more than 450,000 people; the Maya-Chortí, with a population of approximately 33,000 and residing in the western Copán and Ocotepeque Departments, and; the Tolupán, with a population of approximately 20,000, mainly in the central Yoro and Francisco Morazán Departments. Of these groups, the Lenca and the Maya-Chortí reside within the project intervention areas of influence. While approximately 80% of the national Indigenous population resides on communal land, in the project intervention areas, private land tenure systems predominate. The Lenca and Maya-Chortí are both represented by national and regional level indigenous representative organizations. While the Lenca language is now considered extinct, part of the population of the Maya-Chortí people speak their native language, however both populations speak Spanish.

For the past decades, the Dry Corridor of Honduras has experienced considerable social conflict and violence around access to scarce water resources. Community groups are on edge due to conflicts over access to water, and IPs in particular have been sensitive to water scarcity issues, as much of the violence has occurred within their territories or in rural settings over resources that they view as culturally significant. Tensions have centered around strong opposition to government and private sector logging, mining, hydroelectric, and other natural resource projects that have failed to adequately consult with local and indigenous communities. In addition to conflicts around IP and local community rights and access to water, there are also conflicts at the local government level between water-scarce municipalities in some parts of the Dry Corridor.

Subproject contexts: The bulk of project investments will concentrate in the Nacaome River Basin, one of five basins that are spanned by the Dry Corridor. This includes: all activities under Subcomponent 2.2 (Maximizing multipurpose benefits of Jose Cecilio del Valle dam), as well as two already-identified subprojects under Subcomponent 2.1 (integrated water security systems for drinking water supply in La Venta, and for both drinking water and irrigation in Curaren). Two already identified subprojects will also be in the Ulua Basin (integrated water security systems for drinking water supply in La Paz, and for irrigation in Manazapa and Las Mercedes in the municipality of Intibuca). Additional future investments in community-level integrated water security systems (SIAS) are not yet identified but may occur in Nacaome Basin or other national basins that are part of the Dry Corridor.

Nacaome River Basin houses significant agro-industry and aquaculture potential which are considered pivotal to bolster economic development. With a population of 277,759 inhabitants (as per the 2013 census) distributed throughout 25 municipalities, Nacaome is the most populated basin of the Dry Corridor. Although the basin overall is
largely inhabited by subsistence farmers of basic grains, vegetables and fruit, the lower Nacaome basin, near the Gulf of Fonseca, also has about 2,000 ha of existing irrigated land owned mainly by larger scale producers of lucrative export-oriented crops (primarily sugar cane, melon, and watermelon). Industrial shrimp aquaculture is also present. The Jose Cecilio del Valle (JCV) Dam, situated at 128 masl on the Nacaome River a short distance upstream of the community of San Antonio de Flores, in the Department of Choluteca, is a large multipurpose dam designed to supply water for human consumption, irrigation and power generation purposes. The concrete dam was completed in 2001 and is 54 m high and 324 m across. Currently, the dam lacks spillway gates, so its storage capacity is roughly 25 million m³, but would be elevated to 43 million m³ through the project. Maximum reservoir depth currently is 40 m but would increase by 8 m with installation of the spillway gates. The dam also includes a peaking power hydropower plant, which further alters downstream flow patterns, as water is held and released on a daily cycle to maximize energy output.

Environmentally, the Nacaome Basin has one of the highest indexes of degradation of natural resources in the country, due largely to unchecked agricultural expansion based on slash and burn practices. The latter has led to significant deforestation, soil erosion, agricultural run-off and contamination of the basin. This, coupled with high levels of untreated sewerage discharges, renders the Nacaome River as significantly polluted, further contributing to water scarcity and competition between water users. The four municipalities downstream of JCV Dam, as well as the irrigated agriculturalists, rely on capture and pumping of river water, and all four municipalities also discharge untreated sewage into the river, thereby degrading river water quality for downstream users. During dry season, flows are insufficient for effective intake and so both municipalities as well as agriculturalists construct temporary gravel weirs or similar in-channel diversion structures to pool the water. These structures, which wash away with each rainy season, impede fish movements during the dry season and further degrade water quality by increasing sedimentation. Salinization of groundwater in the lower basin near the coastline is increasing because of overdrawing of groundwater when river flows are inadequate for irrigation, further threatening the water security of communities in the area who rely on well water for drinking. The most environmentally sensitive area in the Nacaome basin is the mangrove forest in the river’s delta, which is part of a protected area (Area de Manejo de Habitat Bahia de Chismuyo), as well as a Ramsar site. This area is discussed further under ESS6 below.

Out of the initial four SIAS that will benefit, three are rural (Curaren, La Venta and Manazapa) and one is in an urban area (La Paz). All four sites are characterized by water scarcity for human consumption and/or irrigation; low levels of access to sanitation; poor and extreme poor populations; the rural SIAS sites by high dependence on subsistence farming and poor access to basic services, including health and education. Manazapa is considered indigenous based on the criteria set forth in ESS7; however, they have lost the use of the Lenca language and they are in a process of its revitalization. Curaren and La Paz have have populations that also self-identify as Lenca, but with varying degrees of traditional governance and collective attachment to land.

D. 2. Borrower’s Institutional Capacity
The implementing agency has been designated as the Honduran Strategic Investment Office (INVEST-H). While national systems and capacity on environmental and social risk management are generally considered to be weak, INVEST-H has previous experience working on similar projects with multilateral lenders in accordance with Bank safeguard policies and other applicable donor requirements.

Nonetheless, the capacity of both INVEST-H as well as all other implementing entities to effectively manage social and environmental risks of the proposed project will require further strengthening, considering in particular: (a) the complexity of environmental and social issues on the proposed project -- in particular with respect to social risk
management and the need for strong capacity to carry out continuous stakeholder engagement to manage perceptions, as well as to ensure robust implementation of a well functioning GRM, and all required management plans and instruments for project environmental, social, health and safety risk management; (b) the new areas of substantive coverage of the ESF, as compared to the World Bank safeguard policies and other donor policies; and (b) the ability of the implementing agency to effectively manage the implementation of multiple simultaneous projects (including other proposed and ongoing World Bank projects). The Project Implementing Unit (PIU) within INVEST-H will therefore include dedicated specialists with expertise on environmental, health and safety (EHS) management, social risk management, and labor management. In addition, INVEST-H’s permanent resettlement and gender specialists will provide intermittent support to the project, and if warranted during the course of implementation, additional consultants in these areas will be hired to support them under the PIU.

In addition, given the prominence of INVEST-H as an implementing partner on several projects with World Bank, IDB and other development institutions, they have expressed a keen interest in using this project to strengthen their systems and capacity for ESHS risk management at an institutional level, with the goal that they can eventually harmonize with donor standards and gradually move away from requiring separate ring-fenced ESHS experts within each project PIU across their portfolio. The project will therefore finance a detailed capacity assessment towards these ends, development of a comprehensive ESHS capacity building program, and implementation of priority areas of the program.

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

A. Environmental and Social Risk Classification (ESRC)

Environmental Risk Rating

The principle environmental risks and impacts under the project are expected to include: (a) flooding of approximately 40 ha of primarily forested land in connection with raising the reservoir level of the JCV dam; (b) potential dam safety risks associated with both the JCV dam as well as the SIAS water harvesting structures, the largest of which will require a 15m embankment in La Paz; (c) the potential for some effects to fish populations and associated livelihoods resulting from changes to downstream flows from JCV dam, including increased flows during dry season months (which will likely be a positive effect) as well as a potential slight lengthening of the dry season reduced flow regimen at the start of the rainy season (as the reservoir takes longer to fill to its expanded capacity); (d) diverse localized construction stage impacts related to each SIAS, including: earthworks related impacts and flooding of areas ranging from about 1.7 - 4.2 ha for each water harvesting reservoir, earthworks related impacts of building or upgrading access roads, and potential disruption to aquatic habitat during construction of water intake structures in streams, among others; (e) community health and safety risks related to labor influx to rural communities (some of which are indigenous); (f) diverse occupational health and safety risks as well as traffic and road safety risks to both workers and communities at all construction sites. The environmental risks related to SIAS investments are lower overall than those of JCV dam improvements, due to their community-level size and the fact that one of the key selection and design criteria for subprojects is the availability of reservoir locations which are not environmentally or socially sensitive. The JCV dam improvements are of a larger scale and are therefore considered substantial risk; however, based on the preliminary ESIA, the forest to be flooded is not considered to be of high biodiversity value, and the project is not expected to significantly affect the protected mangrove forests at the mouth of the Nacaome River (the only part of the basin considered of high environmental sensitivity) given their distance downstream of the
dam (about 30km). Even current peaking power generation practices at the dam’s hydroelectric plant only slightly affect water levels by the time the river reaches the mangroves. The project could also lead to some positive benefits to the mangroves, by increasing dry season flows and thus potentially reducing the need for environmentally damaging temporary gravel weirs to be constructed in the river bed to abstract water. These and other potential direct and indirect impacts of JCV dam improvements will be more fully studied under the project before any works commence, and mitigation measures will be adopted as needed related to reservoir management practices and hydropower operations. Strategic studies to be carried out under the project will also help to establish more robust baseline information on hydrology, biodiversity, social context, and current land and water resource use and management practices in the lower Nacaome, to inform better decision making on balancing the competing demands of agriculture, communities and ecosystem sustainability in the longer term.

Social Risk Rating

The proposed project is expected to deliver social benefits through increased water supply for drought-affected rural and urban communities for human consumption and irrigation, in addition to short term employment opportunities that may be available to local communities where civil works are carried out. At the same time, the main social risks and impacts expected under the project include: (i) the potential to exacerbate existing social tensions and conflicts around access to and use of water resources (for example, the SIAS subproject in La Paz may exacerbate the already tense relationship between La Paz and the neighboring municipality of Cane over water). The social risk rating for the project is high due primarily to contextual risk factors in preparing and implementing water resource management activities in the Dry Corridor of Honduras, taking into consideration decades of conflict and violence over access to water at the community and municipal levels, and specifically related to building water retention structures in a sectoral context where water infrastructure has sometimes generated strong tension with indigenous communities in the past, as well as general distrust among water insecure rural and indigenous populations over water sector and natural resource management projects (projects promised and not implemented in the past). (ii) Potential adverse impacts on IPs or other vulnerable groups, and their exclusion from project benefits and activities, particularly those aimed at strengthening water resource management and governance at the local, regional and national levels. (iii) Impacts resulting from the permanent and temporary acquisition of land and restrictions on land use, as a result of civil works aimed at: rehabilitation of hydro-climatic stations, water quality stations, and piezometers for groundwater monitoring; construction and maintenance of the SIAS and upgrades to JCV Dam, including the upgrading of existing and, as needed, construction of small new access roads to facilitate access for construction vehicles and equipment. While mitigation measures have been developed and integrated into environmental and social instruments for the activities planned for JCV dam and the 4 SIAS already confirmed, the location of the other SIAS will be only determined during implementation and hence, specific risks are unknown, yet the contextual risks and potential exacerbation of underlying challenges remain. Furthermore, the time between preparation and beginning of works (estimated to be more than two years) may bring unforeseen challenges from a social perspective; its adequate management will largely depend on continued communication, and dialogue with the 4 communities. resource management projects. (ii) Potential adverse impacts on IPs or other vulnerable groups, and their exclusion from project benefits and activities, particularly those aimed at strengthening water resource management and governance at the local, regional and national levels. (iii) Impacts resulting from the permanent and temporary acquisition of land and restrictions on land use, as a result of civil works aimed at: rehabilitation of hydro-climatic stations, water quality stations, and piezometers for groundwater monitoring; construction and maintenance of the SIAS and upgrades to JCV Dam, including the upgrading of existing and, as needed, construction of small new access roads to facilitate access for construction vehicles and equipment.
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:

INVEST-H has prepared a suite of environmental and social instruments during its preparation in order to assess and lay out management strategies for the various E&S risks and impacts expected under the project. This includes:

1. For Subcomponent 2.1 (scaling up the National Water Harvesting Program): preliminary designs and an ESIA study have been carried out covering four identified subprojects: La Paz, La Venta, Curaren and Intibuca. The ESIA includes four initial subproject-specific ESMPs at the concept design level, which will be further detailed and finalized during the initial stages of project implementation as technical designs move from concept to detailed design (including finalizing aspects such as alignment of aqueducts, water distribution pipelines, access roads and irrigation scheme layouts) and development of bidding documents. In addition, an Environmental and Social Management Framework (ESMF) has been developed and provides information on requirements and processes for E&S due diligence of future subprojects. For the four identified subprojects, the ESIA has identified various issues/risks, including those mentioned in the Environmental and Social Risk sections above. The subproject selection and design process has also taken environmental and social issues into account to minimize risks and impacts wherever possible, including by selecting locations with strong local ownership and community support for the projects, and availability of suitable locations for reservoir construction which are not environmentally or socially sensitive, among other factors. This has included considerations to avoid intervening in sites of cultural significance for IPs, in areas that are characterized by high levels of social conflict around water, and to minimize to the extent possible impacts related to involuntary land acquisition and resettlement. For the initial four SIAS, lands selected for the reservoir locations are currently either used for grazing or agriculture, with sparse trees or larger vegetation cover. In La Paz and Curaren, construction of access roads of 400-600m, as well as some upgrading of existing rural roads, will be required for construction equipment to get to the reservoir locations, but access road affected areas are likewise of low environmental and social sensitivity. The acquisition of private land will be required to facilitate the construction of the reservoirs for the SIAS, to be undertaken largely through willing-buyer-willing-seller arrangements. Rights of way will also be negotiated with landowners to facilitate the installation and maintenance of water distribution infrastructure. A Resettlement Policy Framework (RPF) has been prepared by the borrower to establish guidelines for the identification and analysis of impacts, for assessing eligibility, and for the development of site-specific Resettlement Action Plans (RAPs), as well as guidelines to be followed for cases of communal landownership, land sales, donations, and rights of way. Water to fill the reservoirs will be taken from local streams via small intake structures and diverted to reservoir locations outside of the riverbeds, to avoid impacts to aquatic environments. Hydrological assessments were carried out for each subproject to ensure that impacts to ecological flow of the rivers would be minimal, as by design the intake structures will only function during peak rainy season flows and will divert only marginal water volumes in comparison to the total ecological flow. As such, impacts to downstream water users are also expected to be negligible. Communities receiving potable water will also receive household sanitation kits (latrines) and related training/technical assistance to ensure their ongoing use and maintenance, and beneficiaries of irrigation water will receive culturally appropriate technical assistance on climate-smart water efficient farming practices as well as integrated pest management strategies, both to maximize the value of the investment in promoting sustainable livelihoods as well as to minimize the potential for water delivered through the project to contribute to pollution of downstream waterways. Meanwhile, with respect to the upper catchment areas, to address the potential for
negative impacts to water quality and reduction of catchment recharge capacities due to unsustainable land use practices and poor sanitation of communities living in these areas, the subprojects are conceptualized to include the upstream catchment populations as beneficiaries through an integrated watershed approach. Thus, as part of the project, these communities will also receive household level sanitation kits (latrines) and related technical assistance (TA) on household hygiene, as well as TA and investment support on watershed planning and management activities including reforestation, restoration and sustainable productive practices, to be identified and designed in consultation with these communities.

2. For subcomponent 2.2 (Maximizing the benefits of the multipurpose JCV Dam in the Nacaome Basin), a preliminary ESIA has been carried out at a pre-feasibility level. In the first year of the project, a full ESIA, including ESMP, will be commissioned in parallel to full feasibility and design studies, and the findings and recommendations of the ESMP will be reflected in bidding documents. For the installation of spillway gates, given that the new height of the reservoir is known, the area to be flooded has been calculated at approximately 40 ha of primarily forested land, intermixed with land being used for grazing or cultivation. The biodiversity value of this land is discussed further under ESS6 below, while land tenure and use aspects are discussed under ESS5. Preliminary ESIA screening indicates that IPs are not present in or have collective attachment to the direct area of influence of proposed project interventions in the Nacaome Basin, however further social assessment will be undertaken as part of the full ESIA to further assess the potential existence of IPs in the project’s indirect area of influence, and any related project risks, impacts and opportunities for inclusion. Compensation programs for both the loss of forest cover and livelihood impacts, as well as a broader watershed management and restoration program, will be required and will be funded under the project. Dam safety aspects of the JCV dam are discussed under ESS4, and, impacts relevant to Indigenous Peoples in ESS 7, and cultural heritage aspects are discussed under ESS8. The future downstream flow regimen with the augmented reservoir capacity will need to be more fully assessed under the comprehensive technical and ESIA studies, but based on the preliminary ESIA, the main impacts will likely be (a) increased flow releases during the dry season, in particular in February and March, when current releases (the legally mandated ecological flow of 5 m³/s) do not meet existing downstream demands; therefore, this impact is expected to be positive to both downstream users as well as aquatic species and ecosystem services; and (b) the potential for reduced downstream releases for a few additional weeks at the start of the rainy season in order to fill the reservoir to its expanded capacity. This second effect needs to be studied further and, depending on findings, mitigation measures may be required (such as a commitment to fill the reservoir more slowly and to release additional environmental flow during the period of reservoir filling) to reduce potential impacts to downstream water users and aquatic biodiversity. Nonetheless, the preliminary ESIA results do not suggest that this impact will be highly significant from a biodiversity perspective, as explained further under ESS6. With respect to the central water treatment plant and water distribution pipeline to four downstream municipalities, given that the specific locations and alignments have not yet been determined, the preliminary ESIA carried out a high-level screening assessment of potential sensitivities along two alternative alignments of the pipeline – one following the road right of way and the other following the river bank. While the preliminary ESIA did not identify any major potential social or environmental risk issues related to either option, these will be analyzed in-depth as part of the full ESIA.

3. For small scale works under Component 1 (supply, installation, and commissioning of hydrometeorological stations and data centers), impacts and risks are expected to be minor, and limited to the construction phase. Environmental and social screening and assessment will be carried out as part of the technical design study to be
commissioned in year one of the project and required mitigation and management measures related to land acquisition, site access, and typical construction impacts will be incorporated into bidding documents.

4. Appropriate E&S supervision and oversight arrangements will also be in place throughout project implementation. All required construction phase mitigation, management and monitoring measures identified in all detailed ESIA studies and ESMPs will be reflected in bid and contract documents. Contractors will be required to maintain ESHS officers who will ensure all ESHS contract requirements are implemented, and lead training and orientation of workers. Each of the SIAS subprojects as well as the JCV dam works will have a multidisciplinary professional supervision team at site carrying out day to day supervision of technical as well as environmental and social compliance with these requirements. Invest-H will have full time environmental and social specialists who will oversee the quality of the E&S supervision by the firms, periodically visit all works sites as well as handle reporting to the Bank and relevant national authorities.

ESS10 Stakeholder Engagement and Information Disclosure

Given the sensitive context around water in the Dry Corridor, social conflict analysis and strong stakeholder engagement have been critical aspects of project preparation – and will continue to be carried out during the remainder of project preparation and throughout project implementation, in order to mitigate the risk of potential social conflicts and/or misperceptions about project impacts and benefits, and to solicit stakeholder feedback on the project. Additionally, the subproject selection and design process for the SIAS has taken existing social conflict issues into account to minimize risks and impacts wherever possible, including by selecting locations with strong local ownership and community support for the projects, in areas that are not characterized by high levels of social conflict around water.

The borrower prepared a Stakeholder Engagement Plan (SEP), which identifies affected and other interested parties, disaggregated by project activities at the national level, SIAS and JCV intervention. It also identifies vulnerable groups who will require special measures to facilitate their participation in project implementation and consultations, such as extremely poor individuals, female headed households, and illiterate individuals. While IPs reside in the project areas, there is no need to use a language other than Spanish to share information or consult because (particularly) the Lenca and (to a large extent) Maya-Chorti groups have lost their native languages. During consultations, they all expressed preference for consultations to occur in Spanish as this is the language used in their daily lives. The SEP also includes a schedule of activities for stakeholder participation during implementation.

The SEP elaborates a project-level GRM that has been developed and shared during consultations with key stakeholders. It has several channels to submit grievances, including mailboxes and logbooks at the community and municipal levels, telephone number and email. The GRM also includes guidance to be followed for the classification of grievances, description of follow up actions, response and appeal process, monitoring and evaluation, and institutional responsibilities for implementing the GRM. An updated GRM report will be included in the quarterly implementation reports prepared by INVEST-H and submitted to the Bank.

A total of 5 consultations were undertaken between September and October 2019 to consult the project with key stakeholders at the national level. These consultations involved representative members of the Lenca National
Indigenous Organizations ONILH and MILH, as well as members of the Consejo Nacional Indígena Maya-Chortí de Honduras (CONIMICHH) and the Coordinadora Nacional Ancestral de Derechos Indígenas Maya-Chortí de Honduras (CONADIMICHH). Participants were consulted on the scope, objectives and planned activities of the project, as well as on potential benefits, opportunities, environmental and social risks, and related mitigation measures.

The ESIA undertaken for the initial four SIAS included strong local level stakeholder engagement with municipal actors and beneficiary communities, as well as a preliminary social conflict analysis. Stakeholder consultations included at least four participatory workshops with beneficiary communities in each of the four SIAS locations, as well as the installation in each site of an opinion box for the submission of written feedback on the project, which were opened at the end of the ESIA phase. Results of consultation and opinion box submissions indicated high level and widespread community support for the SIAS in the first four initial locations, as documented in the ESIA report for the SIAS. While the ESIA for the SIAS did not uncover any major existing social conflict issues among communities (Indigenous or non) around water access in the first four SIAS locations, existing tensions between two beneficiary municipalities of the La Paz SIAS (related to a current water sharing agreement between the two) will be further explored as part of the completion of designs for that subproject. Assessments of the situation around social conflict and water resources will also be revisited and updated, as needed, as part of the finalization of designs for all four SIAS.

The preliminary ESIA for the JCV Dam works in the Nacaome Basin also undertook a stakeholder mapping and very preliminary consultations with municipal stakeholders. Full consultations including with additional key stakeholders, beneficiary communities and potentially project affected people, will commence during the full ESIA. Analysis of secondary data indicate that, with respect to social conflict in the Nacaome basin region, potential stakeholder opposition and/or sources of social conflict have center mostly around: fears related to a previous water sector initiative that never materialized but aimed to take water from the JCV to Tegucigalpa; strong opposition from the municipality of Reitoca (located upstream of the Nacaome basin, in the project’s indirect area of influence) to the construction of a Dam on the Petacon river, and; potential conflict amongst beneficiary municipalities due to the alternative of centralized water treatment plant, given that under the current status quo, each municipality controls their own local water treatment plants, which, however, are insufficient to satisfy water demands. Initial consultations undertaken for the JCV Dam ESIA indicate that, with strong stakeholder engagement and communication in line with the project SEP, these potential sources of conflict can be managed. These issues will be explored in depth and in consultation with project stakeholders during the full ESIA for the JCV Dam works.

The SEP, along with the other project E&S management frameworks, preliminary designs and ESIA for the four initial SIAS, as well as the pre-feasibility study for JCV, have been publicly disclosed between January 2nd and 31st, 2020 through INVEST-Honduras webpage: http://www.investhonduras.hn/ to solicit feedback. These instruments, and summary information about their contents, was also shared directly with consultation participants via email. The SEP will be updated to reflect recommendations received and redisclosed following Appraisal, and thereafter as needed throughout the life of the project. Communication with stakeholders of the four initial SIAS and JCV Dam upgrade works will continue between preparation phase and effectiveness, including site visits by INVEST-H. During implementation, communication will continue through periodic meetings at the community, local and national levels.

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**

The standard is relevant given the need to employ direct, contracted, and community workers associated with project activities and investments, and to source from primary suppliers for some construction materials. During project preparation, the Borrower has prepared draft Labor Management Procedures (LMP) to manage labor related risks and impacts. The preliminary designs and ESIsAs for the first four SIAS also provides some information on labor risks and mitigation measures; these will be further assessed as part of the completion of designs, ESMPs and bid documents for the SIAS, as well as under the full ESIA for the JCV Dam works.

The draft LMP provides an initial overview of the expected hiring structure for the project, types and numbers of workers to be hired, key labor related issues and risks and their management (based on national labor legislation and in line with provisions of ESS2), as well as a standalone labor GRM. For project implementation, Invest-H will hire direct workers for PIU posts, and some civil servant personnel will be associated with the project, and will hire various consultants (individuals and firms) to provide technical assistance, carry out studies, and support the PIU. For the construction of the SIAS and the JCV Dam works, contracted workers will be hired by construction and supervision firms and their subcontractors. With respect to primary suppliers, further details about major required supplies and their potential sources are pending completion of detailed designs and bid documents; however, the relatively small scale of works for SIAS investments suggest that any primary supplier issues will primarily apply for JCV dam related works. Labor influx impacts may be expected in the case of the construction of SIAS investments in remote, rural areas. However, at this point it is expected that at least some portion of workers will be supplied locally and that the total number of workers at each site will be small, so influx related impacts may be moderate overall, but in certain locations – particularly indigenous communities – even small numbers of workers arriving from outside the community could create more significant risks requiring astute management. Migrant workers (either from other parts of Honduras, or from neighboring countries) may also be contracted. A second major labor related issue requiring careful attention will be the expected use of community workers for some types of “in-kind” unskilled labor related to SIAS development. Such community contributions may include, for example, clearing of brush or crops to assist with contractor mobilization; construction of household latrines; etc. While such activities do not entail the same potential occupational health and safety risk profile as larger scale works to be completed by the contractor, there are nonetheless some more minor risks which the project will need to ensure are appropriately managed. In addition, there is a heightened risk of child labor being deployed for community “in kind” works; this will need careful monitoring. Gender dimensions regarding community access to paid work vs in-kind labor will also need to be carefully monitored, and anti-discriminatory hiring practices enforced with contractors. Some local and community workers may be indigenous, such as in the case of the Curaren and Manazapa SIAS.

The draft LMP assesses the potential risks around this context as well as mitigation measures, including: measures to promote transparency in terms and conditions of employment, nondiscrimination and equal opportunity; how to define, screen for and address possible incidence of child or forced labor; management of risks related to labor influx and gender based violence, or other forms of conflict with the local community; safety of workers in relation to potential construction hazards such as difficult access to construction sites of the SIAS reservoirs, particularly during the rainy season; health and safety requirements and procedures specifically for community workers; as well as more general occupational health and safety procedures to all categories of full and part-time workers. The LMP establishes a preference, wherever possible, for hiring local labor and will outline requirements that all workers are trained to deal with cultural differences in indigenous and rural communities. The LMP also stipulate that that all
workers (especially labor from outside the community) will be trained on sexually transmitted diseases and be required to sign a code of conduct. Labor-related requirements specific to construction activities will also be incorporated into the site-specific ESMPs and also bid documents for all investments and will be supervised by construction supervision firms.

The draft LMP will be revised in the first-year project implementation, as final designs and bid documents for the initial SIAS as well as ESIA and technical studies for JCV dam are underway, and further information becomes available on relevant details on labor issues and their management. It will also become a chapter in the project’s Operations Manual. Throughout project implementation, the LMP procedures will be revisited and updated on an ongoing basis as required and as additional project activities unfold entailing additional labor related risks or issues.

ESS3 Resource Efficiency and Pollution Prevention and Management

The project design reflects objectives of increasing water conservation and efficiency of water use. The SIAS concept includes not only hard infrastructure but also substantial technical assistance to beneficiaries on climate-smart and water efficient agriculture, as well as watershed conservation and sustainable production in upper catchments to enhance aquifer recharge capabilities. As referenced in ESS1, hydrological assessments have also been completed for the first 4 SIAS subprojects, to enable sound designs that ensure that water intakes for replenishing the reservoirs will only divert marginal water volumes from streams during peak flood season, ensuring that the streams’ environmental flows will not be measurably impacted. The ESIA carried out for the first 4 subprojects also includes guidelines for contractors to ensure efficient use of water, minimization of air emissions, and appropriate solid waste management during the construction period. The ESMF lays out similar requirements for future subprojects as well, to be fleshed out in more detail in subsequent ESIA processes at the subproject level.

In addition, for all subprojects which will include water supply for domestic uses (La Paz, La Venta and Curaren in the first batch), water treatment plants are included in the subprojects. All subprojects will also provide for and train water user associations in ongoing monitoring of the quality intake water, and the interventions and technical assistance to communities in the upper watershed will specifically aim to reduce potential water contamination from upstream poor sanitation practices and/or coffee production waste – as well as to reduce erosion and sedimentation from poor land use management practices that could also threaten water quality and undermine infiltration capacity. Additionally, given the objective of the project is to enable higher value and intensified agricultural productivity through irrigation, there is a risk of an increase in the use of pesticides and fertilizers. The TA to be provided through the project for all subprojects benefiting agriculturalists, as well as TA for communities in the upstream catchment areas, will therefore include capacity building and support to adopt integrated pest management practices in line with this standard.

For the JCV dam, similar watershed conservation, reforestation and sustainable land use management programs are earmarked for the dam’s catchment area; these programs will get designed in more detail as part of the full ESIA to be commissioned during implementation. A full water balance study for the entire Nacaome basin will also be carried out under implementation as part of the feasibility assessment, and results will be reflected in the full ESIA as well as taken into account in project design and reservoir management elements. The studies will also look into the
potential to incorporate floating solar PV panels on the reservoir under the project, which could both generate renewable energy as well as reduce evapotranspiration from the reservoir.

Regarding GHG accounting, for the SIAS, the scale of each subproject is not expected to generate significant emissions, and therefore GHG assessments for these subprojects were not considered necessary as per this standard. The preliminary ESIA for JCV dam indicates that decomposition of biomass removed from the inundated area before flooding is a potentially significant source of GHGs, but does not provide any quantification at this stage, as the detailed tree inventory for the flooded area will be carried out only as part of the full ESIA. It notes that this may also be offset by the reforestation efforts to be required as a compensatory measure. In addition, it should be noted that the increased hydrological head to be created by the raised reservoir level is expected to increase energy output of the existing hydroelectric plant, which – in a long term capacity – is considered a clean form of energy production from a GHG perspective, further offsetting project construction stage emissions. A full GHG assessment will be undertaken as part of the detailed ESIA to be commissioned in year one of the project.

ESS4 Community Health and Safety

The ESIA for the four identified SIASes evaluated risks to community health and safety, including water quality, dam safety, traffic safety, labor influx management issues, camp management and sanitation including issues such as avoiding stagnant water, and community sanitation. While the ESMPs for these four SIAS identify some specific mitigation measures for potential risks, these will be revisited and explored in depth to ensure adequacy as per the requirements of this Standard as part of the completion of preliminary designs for all four SIAS.

Technical assistance will be provided to ensure recipients of latrines / sanitation kits will use them on an ongoing basis. All subprojects providing drinking water will include investments in water treatment plants, including necessary training and capacity building of water user associations to ensure their ongoing O&M and water quality monitoring. Road safety risks associated with increased traffic during construction of the civil works is also anticipated, and traffic management plans will be developed as part of the site specific ESMPs. The ESMF lays out requirements and procedures to ensure that all ESIAs carry out similar adequate assessments and develop appropriate management plans at a site specific level.

With respect to dam safety, an international expert carried out a preliminary dam safety assessment of the JCV dam, which found the general conditions of the dam to be satisfactory with no “red flag” issues. Nonetheless, the preliminary assessment did identify some gaps including a deficit of data on hydrology and bathymetry, some maintenance deficiencies (vegetation and trees on downstream slope of rockfill), deficiencies in ongoing surveillance and monitoring, and lack of an emergency response plan. The project will commission a comprehensive dam safety assessment of the existing JCV dam and its expanded capacity during the implementation phase, and will finance improvements in the JCV Dam safety plan—more specifically, the preparation/completion of specific O&M manuals for a monitoring plan, a publicly approved emergency preparedness plan (EPP), and an emergency action plan (EAP) for high spillway discharge and dam break contingencies to warn the population and implement partial or full evacuation, as necessary. The EPP will include a dam break analysis as well as the definition of security areas around the reservoir, the dam itself, and individual structures. The project will furthermore retain a Dam Safety Panel of Experts to review and guide the borrower on all dam safety issues, including reviewing assessments and plans, providing training and capacity building to dam operators, and ensuring appropriate incorporation of the findings and
recommendations of assessments into final designs and dam operating protocols for all dams under the project. The Panel of Experts will review the full dam safety assessment and related manuals and plans for JCV dam. The full dam safety assessment shall be completed, and an agreement reached on a dam and reservoir operating regime that is compatible with environmental and social needs, dam safety, and local regulations, acceptable to stakeholders and viable for implementation by dam managers, prior to bidding the civil works. The full and final dam O&M manuals and related emergency plans (addressing flow management, monitoring and emergency preparedness) shall be completed prior to closing the new spillway gates. Any major existing safety problems identified in the full dam safety assessment for JCV dam will likewise be addressed through the project.

In addition, for the SIAS reservoir in La Paz as well as any other SIAS reservoir requiring an embankment of 15m or higher or which could cause safety risks as defined in this standard (due to its location, seismic risks, proximity of downstream communities, etc.), the Panel of Experts will carry out an independent review of embankment designs and guide on any necessary safety measures, which will in turn be financed under the project. Emergency plans will also be developed for each subproject to address eventualities of any future safety incident related to any water retention structure under the project.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

This standard is relevant since the project will finance the construction of civil works that imply the following land-related impacts: (i) permanent acquisition of privately owned land; (ii) potential temporary and/or permanent displacement of small businesses, landowners and land users; (iii) economic displacement impacts for land users and fishing communities currently using the expanded floodable zone of the JCV Dam, and; (iv) temporary rights of way to facilitate studies undertaken during preparation to design and conduct ESIA for the SIAS, and for the future installation and maintenance of water distribution tubes for both the SIAS and JCV Dam works. In the 4 identified SIAS, no physical resettlement is expected, or impacts on communally owned land.

A draft Resettlement Policy Framework (RPF) was prepared during project preparation. The RPF examines national legislation around involuntary land acquisition and resettlement, gaps with the Bank’s ESS5, and provides guidelines to be followed for the identification and analysis of impacts, for assessing eligibility, and for the development of site specific Resettlement Action Plans (RAPs), as well as guidelines to be followed for cases of communal landownership, land sales, donations, and rights of way. The RPF also includes a Grievance Redress Mechanism (GRM) for project affected people.

The ESIA for the four initial SIAS and for the JCV Dam works also included analysis of existing land tenure systems and land use patterns in the respective project locations and screening for likely land-related impacts the four SIAS and JCV works. In the case of the SIAS, the screening process that was undertaken to identify suitable sites for SIAS included considerations to reduce, to the extent possible, impacts related to land acquisition. Therefore, all lands to be inundated for the initial four SIAS comprise uninhabited grazing lands or mainly fallow agricultural fields, and the extent of permanent land acquisition required will be minimal, from approximately 7 private landowners, as well as from the Central Bank of Honduras (for the La Paz SIAS). All acquisition of private land for the four SIAS, and likely for future SIAS, is expected to occur through voluntary land sales transactions, as conditions exist that satisfy the criteria for land sales according to EAS S. These will be undertaken and documented in accordance with the IPPF.
The ESIA for the four SIAS also included consultation with private landowners affected by preparation activities in the field that resulted in the obtaining of signed rights of way agreements to facilitate the opening of small access roads for undertaking ground studies to for the preliminary design the SIAS. The ESIA also includes signed agreements from landowners evidencing their willingness to: (i) sell land for the construction of SIAS reservoirs prior to the beginning of works, and (ii) provide temporary access to land through rights of way agreements to facilitate future construction and maintenance of water distribution infrastructure. These signed agreements, and the due diligence processes as per EAS 5 undertaken to arrive at them, are documented in the ESIA for the four SIAS.

The preliminary ESIA for the Nacaome valley works, including JCV Dam upgrades, construction of a centralized water treatment plant and water distribution infrastructure to four beneficiary municipalities, identified likely economic displacement impacts. These will result from: (i) expansion of floodable zone of the JCV Dam reservoir, which will be entirely within land owned by the Government of Honduras. While preliminary ESIA screening indicates there are currently no human settlements in this area, it does identify the private use of parcels of this land by individuals planting crops and grazing their livestock. There is also a sand mining company that may be affected that currently provides employment to local communities. A second impact will be: (ii) temporary disruption to local businesses and temporary, periodic access to private land, required for the installation and maintenance of water distribution infrastructure. The exact number of private individuals, and the nature and extent of impacts on land they use or own, as well as impacts on the aforementioned sand mining company, will be further assessed in the next phase of the ESIA and site specific RAPs developed, as needed.

The draft RPF was prepared consulted and disclosed by Invest-H on January 9, 2020 and by the Bank on January 30, 2020, along with the ESIA for the first four SIAS and preliminary ESIA for JCV works. The RPF will be revised to incorporate any feedback received and will be re-disclosed on the Bank’s and Government’s websites.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is relevant, given that the project will impact aquatic and terrestrial habitats. The main biodiversity impacts relate to the JCV dam improvement works under Subcomponent 2.2. As noted under ESS1, about 40 ha of primarily forested land will be flooded with the installation of the spillway gates on the existing dam. The findings of the preliminary ESIA identify the affected forest as Tropical Dry Forest, an ecosystem type that is historically typical of southern Honduras, and while nationally it is under pressure from land clearing for agriculture, it does not carry any kind of official status of conservation concern or protection. Based on secondary data review as well as seven days of primary fieldwork, the preliminary ESIA found that, while the forest around the reservoir is home to a number of species of both flora and fauna, none of the fauna have a status of high conservation importance (all are Least Concern (LC) or unlisted as per IUCN Red List classification), while only one plant species encountered – a white oak (Quercus oleoides), is IUCN “Near Threatened”, and three cactus species encountered are CITES Appendix II listed. For these flora species, transplanting above the water line is proposed (the feasibility of this mitigation measure will be more fully assessed under the full ESIA; if not feasible then other appropriate measures as per the mitigation hierarchy will be explored under the full assessment). While denser areas of forest cover do exist in the area to be inundated, the preliminary ESIA found that the habitat quality of this area shows signs of degradation, noting that most of the forest patches were dominated by bird species that are indicators of high perturbation. In spite of the numerous species indicated in secondary literature as being present in Tropical Dry Forest ecosystems, relatively few
species were observed in the field, given anthropogenic pressures. Further studies, spanning full seasonality, were nonetheless recommended to get a fuller picture of species present and to ensure appropriate mitigation and, if warranted, offset measures for the loss of habitat (even if degraded), which will be done under the full ESIA to be carried out in year one of the project. It is further worth noting that the swath of land around the reservoir already under government ownership extends up to 150 meters above sea level (masl), but the project will only raise the reservoir level from 128masl to 136masl, so there will still be a swath of land extending over 14m of elevation which is also still largely forested (similar habitat quality) and can be protected as well as enhanced through reforestation efforts under the project. The preliminary ESIA also recommends a broader program for catchment protection that would support surrounding municipalities and landowners with reforestation, land restoration and sustainable productive livelihoods programs – similar to what is envisaged under SIAS subprojects – which will have positive effects both for biodiversity as well as reservoir management. This program, as well as other mitigation measures, will be more fully fleshed out under the full ESIA, and implemented under the project.

With respect to aquatic habitat impacts of the JCV dam improvement works, the preliminary ESIA results do not suggest that this impact will be highly significant on biodiversity, as the aquatic habitat downstream of the reservoir is already highly modified, due to the existing dam and its power plant’s peaking power cycles, as well as introduction of exotic species (escaped tilapia from fish farms in the reservoir), pollution from untreated sewage discharge, and the existing practice of informal gravel “weirs” constructed across the river bed by downstream communities and agriculturalists during each dry season to pool water for irrigation and water supply abstraction. The preliminary ESIA only identified one fish species downstream of the reservoir (mountain mullet, Mugilidae Agonostomus monticola) with national conservation status (but which is LC as per IUCN). A 2016 study of the Nacaome River had found 2 additional aquatic species with national conservation status, one of which (the Pacific seahorse, Hippocampus ingens) is listed as Vulnerable on the IUCN Red List, while the other (yellowbelly pipefish, Pseudophallus starksii) is considered LC. Both species are considered coastal dwellers, likely residing near the mouth of the Nacaome, although neither was encountered during the preliminary ESIA study. The most biodiversity sensitive area in the Nacaome basin is the mangrove forest and estuarine zone in the river’s delta, which is part of a protected area (Area de Manejo de Habitat Bahia de Chismuyo), as well as a Ramsar site (a designation that encompasses a total of 10 protected areas around Honduras’s Golfo de Fonseca). Despite being under pressures from inland land use changes which have altered and reduced freshwater inflows, as well as direct conversion to shrimp farms, the mangrove forest still has significant biodiversity value, and would qualify as at least natural habitat as per ESS6 (further study would be required to determine if the area may also be critical habitat for any species of conservation significance). It also provides significant ecosystem services to coastal communities and livelihoods. Nonetheless, the project investments are not expected to significantly affect on this area. The JCV dam is 30km upstream, and current effects of peaking operation of the reservoir’s power plant are not significantly felt by the time the water gets to the mangrove forest. The impacts of changed downstream flows as described under ESS1 need to be further studied but are not expected to result in significant negative impacts to the mangrove forest, and may be positive, as more water will be released during the dry season which could result in a reduction of informal gravel weirs constructed seasonally (as water users may no longer need to pool water to the same degree for effective abstraction), with related water quality and aquatic habitat improvements. These and other potential impacts of JCV dam improvements will be more fully studied under the full ESIA to be carried out before any works commence, and mitigation measures will be adopted as needed related to reservoir management practices and hydropower operations. The project also does not expect to cause any potential indirect impacts to the mangroves as a result of changes to downstream water use patterns, as significant additional investment would be required to expand the
irrigated area in ways that could put measurable additional pressures on the forest ecosystem. The additional water to become available to downstream water users through the project will go towards satisfying existing demand and offsetting groundwater abstraction, which may result in positive spillover effects in reducing saline intrusion of the aquifer. Nonetheless, the project will finance a strategic study and related TA to establish more robust baseline information on hydrology, biodiversity, social context; more fully understand the current and potential future water usage patterns and practices of agriculturalists in the lower Nacaome and their related environmental and social effects; and analyze scenarios of possible changes to those effects – either positive or negative – and their likelihood. Such strategic analysis will aim to lay the groundwork for future improved planning and management of water use in the lower Nacaome basin -- balancing the competing demands of agriculture, communities and ecosystem sustainability in the longer term -- as well as enhancing protection of the sensitive mangrove ecosystem.

The locations of all identified SIAS reservoirs are meanwhile not environmentally sensitive, consisting of open pastureland or crop land (and this is also a criterion for site selection of future SIASes). Two protected areas are impacted: the Mixcure Wildlife Reserve (buffer zone) in Manazapa, and the Montecillos Biological Reserve in La Paz. Proposed project activities are consistent with both reserves’ management plans; in both cases the physical works will be outside of the core reserve areas. The investments in restoration of forest cover and in supporting sustainable livelihoods in upstream areas of the watersheds that will supply the reservoirs will align with and help to support objectives of these protected areas. In SIAS locations where upper catchment protected status does not already exist, the project will furthermore support the national legal designation process for aquifer recharge zones, and align catchment-area investments with their specific conservation and livelihood support objectives agreed collectively by local stakeholders. In general, investments in upper catchments will aim to increase forest cover, protect existing forest cover, improve habitat quality and increase sustainability of economic activities. Establishment and strengthening of community-based watershed management groups and aquifer recharge area designations will also contribute to improved biodiversity conservation, water quality and abundance. All forest-related activities will furthermore follow sustainable forestry practices as specified in this standard.

The full ESIA for JCV dam improvement works, as well as future SIAS subprojects, will all carry out full assessments, as part of their ESIA studies, to establish robust biodiversity baselines, determine the nature and scale of all ecological and social impacts related to project effects on natural habitats and the ecosystem services that they provide, and propose appropriate mitigation measures as per the mitigation hierarchy. Ecological flow requirements will also be assessed and ensured in the designs of all water storage infrastructure and their requirements for operations phase.

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

Indigenous Peoples belonging to the Lenca and Maya-Chorti ethnic groups are present in the departments and municipalities that comprise the direct and indirect areas of influence of the project. While the preliminary ESIA for the JCV works determined that there are no Indigenous Peoples as per ESS 7 in the direct area of influence of proposed project interventions in the Nacaome Valley, in the case of the initial four SIAS, the majority of the beneficiary population for the Manazapa SIAS and a portion of the beneficiary population of the Curaren system are Lenca. While there are Lenca communities in the Department of La Paz, the population within the urban area is minimal, however communities who self-identify as Lenca reside in the upper catchment area of this SIAS, and further social assessment will be undertaken during the additional studies to finalize environmental and social plans,
detailed designs and bid documents, to be completed in the first year of project implementation, to assess the existence of and risks and impacts for Lenca populations, as well as for sites of cultural significance. There are no IPs in the project area of influence for the La Venta SIAS.

Given the sensitivities around water usage and water conflict with indigenous communities in the region, screening to identify suitable intervention sites for the 4 already identified SIAS included the exclusion of intervening in culturally relevant or sacred sites, as well avoiding areas characterized by existing social conflict over access to water. Project preparation included strong stakeholder engagement and consultation with national and local level indigenous representative organizations and indigenous community members around project objectives and proposed activities, possible risks and impacts on indigenous communities, as well as mitigation measures and opportunities for inclusion.

The results of this participatory process are documented in the Indigenous Peoples Planning Framework (IPPF) prepared by the borrower during project preparation. The IPPF includes: an analysis of the national legal framework relevant to Indigenous Peoples; guidelines for screening for the presence of IPs, for undertaking site-specific social assessments, and for designing and implementing Indigenous Peoples Plans (IPPs), as needed, and in consultation with project affected and beneficiary indigenous communities, as per the requirements of EAS 7 and national legislation. The IPPF also stipulates that FPIC will be obtained in the cases identified under ESS7. This standard requires substantial engagement with these impacted communities and broad community support would need to be obtained in order for any works to commence.

For the SIAS, indigenous community members and representative organizations were consulted in Curaren and Manazapa, resulting in the broad community support for the project, evidenced by the signing of Consent Notes annexed to the ESIA for the SIAS. Impacts related to construction and maintenance of the SIAS on IPs, including in Curaren, Manazapa are expected to be mainly positive, through increased access to water for human consumption and irrigation, and temporary employment opportunities on the construction of the SIAS. Adverse impacts on land or other natural resources considered sacred to Lenca beneficiaries are not expected, and there are no known existing social conflicts around indigenous groups’ access to water resources in the Curaren or Manazapa locations. Potential risks to indigenous peoples include those related to labor influx issues during construction phase of the SIAS, particularly in Manazapa, which is largely Lenca. The Project LMP will include measures to address these risks. The ESIA also includes preliminary ESMPs for each SIAS with measures identified to address these risks, including continued community engagement events and meetings required to be undertaken by the contractor, as well as trainings.

For Curaren and Manazapa (and possibly for La Paz as well, based on results of further screening for the presence of IPs), and for any additional subprojects intervening in areas where indigenous peoples are present or have collective attachment, prior to beginning of works (and as part of finalization of designs for the initial four SIAS) site specific Social Assessments will be carried out and Indigenous Peoples Plans developed, as needed, in line with the IPPF. While the preliminary ESIA for the JCV works determined that there are no Indigenous Peoples as per ESS 7 in the direct area of influence of proposed project interventions, further social assessment will be undertaken as part of the full ESIA to further assess the potential existence of IPs in the project’s indirect area of influence, and any related project risks, impacts and opportunities for inclusion.
Starting in September 2019, INVEST-H undertook a series of consultations with stakeholders, including Lenca and Maya-Chorti people. During those consultations, there was a space dedicated to address special concerns regarding indigenous peoples. Taking into consideration the feedback received, a draft IPPF was developed and shared with Lenca and Maya Chorti representatives and open for feedback for a month in January 2020. This draft was also published for consultation on January 10, 2020. The IPPF was revised to incorporate feedback received and subsequently redisclosed. It will be shared at the local level in the location of the initial four SIAS and electronically with those indigenous representatives who participated in the consultations during preparation.

**ESS8 Cultural Heritage**

As a result of early consultation by the project with communities, the Manazapa reservoir location was relocated following indications from community members that the originally proposed site was a sacred location. Apart from this, there is no indication of other potential impacts on physical cultural heritage for the 4 identified SIASes. With respect to “living cultural heritage”, the ESMPs for the 4 SIASes do not identify any such heritage which may be negatively impacted by the project.

As specified in the ESMF, potential cultural heritage impacts will be thoroughly assessed as part of the ESIA process for all future specific investments, covering both built cultural or archaeological resources as well as any natural features (such as water bodies) which may hold cultural or religious value to local communities. If potential impacts on cultural heritage near or on any project sites are identified, cultural heritage plan(s) will be developed in accordance with this standard. Chance find procedures will also be included in all works contracts.

With respect to JCV dam improvement works, there were several archaeological sites encountered in the cultural surveys done as part of the original ESIA for the dam in the 90s, but the Bank has understood from discussions with Invest-H and the consultant retained by them to prepare the preliminary ESIA that, aside from one site which was in a location already flooded by the existing reservoir (and which was relocated before the original impoundment), all others are above the water line for the raised reservoir. Nonetheless, the full ESIA to be carried out for JCV works will verify this and will propose any measures if required to ensure appropriate protection and/or salvage (if required) of any cultural artifacts in the zone to be flooded, as well as along the final selected right of way of the water distribution pipeline, or in any other area which may be impacted by project works.

**ESS9 Financial Intermediaries**

There is no FI involved in this project.

### B.3 Other Relevant Project Risks

n/a

### C. Legal Operational Policies that Apply

**OP 7.50 Projects on International Waterways**

Yes
The project may include activities in the Choluteca Basin, transboundary basin with Nicaragua.

OP 7.60 Projects in Disputed Areas

No

There are no interventions in disputed areas

### III. BORROWER’S ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP)

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<td>Establish and maintain appropriate ESHS staffing at the PIU level, including at minimum: (a) an EHS specialist; (b) a social specialist; (c) a communications and grievance management specialist; (d) a labor specialist. In addition, Invest-H’s permanent resettlement and gender specialists will be made adequately available to support the project (or will be backstopped by additional consultants or staff to be hired, if required).</td>
<td>03/2021</td>
</tr>
<tr>
<td>Contract supervision consultants with appropriate ESHS expertise and experience to oversee all works sites, prior to initiation of works, and maintain throughout corresponding construction periods.</td>
<td>06/2022</td>
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<tr>
<td>Contract TA support / capacity building consultants to work with SIAS and JCV beneficiaries on topics related to long term sustainability, including: integrated pest management and sustainable production practices; sustainable watershed management and forest protection; planning, organization and incorporation of water governance systems; declaration of aquifer recharge zones; community sanitation; efficient water use; social inclusion; etc. Maintain for at least 2 years in each community.</td>
<td>06/2022</td>
</tr>
<tr>
<td>Carry out full ESIA including ESMP and RAP for JCV improvement works, including robust stakeholder engagement, and obtain World Bank approval as well as relevant national environmental licenses and other permits, to be completed and disclosed before initiating bidding process for JCV related works. Thereafter, ensure full implementation of ESMP and RAP.</td>
<td>03/2022</td>
</tr>
<tr>
<td>Finalize, resubmit to the Bank for approval, and re-disclose site specific ESMPs and RAPs for the first four SIAS subprojects (La Paz, La Venta, Intibucá and Curaren), as well as IPPs for Intibucá and Curaren, and ensure that all relevant construction phase management measures are reflected in bid documents prior to their issuing. Thereafter, ensure full implementation of all required management measures.</td>
<td>10/2021</td>
</tr>
<tr>
<td>In accordance with the ESMF, ensure full ESIA including ESMPs, RAPs and IPPs (where required) are completed, consulted and disclosed for all future SIAS subprojects, and approved by the Bank, in conjunction with the technical planning and design processes and prior to issuing of bid documents. Thereafter, ensure full implementation of all required management measures.</td>
<td>06/2023</td>
</tr>
<tr>
<td>Confirm and update (as required) the ESMF, to ensure comprehensiveness of national legal requirements, necessary permits and other authorizations to be obtained, and inter-institutional arrangements for effective implementation of all E&amp;S measures.</td>
<td>03/2022</td>
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</tbody>
</table>
Carry out a strategic study to diagnose issues important to achieving sustainable and equitable management of water resources in the lower Nacaome river basin, as well as environmental and social considerations and risks, and analyze potential alternative solutions.  

Include environmental and social screening, assessment and management planning in accordance with the project ESMF, RPF and IPPF as part of the consultancy to define project interventions in hydro-meteorological stations under component 1. Reflect any necessary management measures into bid documents prior to their issuance, and thereafter, ensure implementation of all required E&S measures.  

Contract one or more firm(s) to: (a) carry out an E&S capacity diagnostic of Invest-H, (b) propose an optimal permanent organizational setup including key competencies and staff for E&SH management, (c) propose an E&S policy for Invest-H including related principles, standards, and good practice manuals, (d) elaborate E&S indicators for M&E in at least three program areas and propose an institutional M&E setup for Invest-H; (e) develop an E&S capacity building plan for Invest-H personnel.  

**ESS 10 Stakeholder Engagement and Information Disclosure**

Implement the project Stakeholder Engagement Plan (SEP) throughout the life of the project. Update whenever required, based on implementation experience.  

Maintain an accessible project GRM throughout the life of the project.  

**ESS 2 Labor and Working Conditions**

Update the Labor Management Procedures (LMP), to reflect additional information about labor modalities, issues and risks identified and confirmed as designs, full E&S plans and bid documents are completed for the first 4 SIAS as well as JCV works.  

Implement LMP, including labor GRM, throughout the life of the project.  

Ensure all site-specific ESIAs and ESMPs cover relevant OHS risks and management measures, and ensure measures are implemented throughout each subproject construction period, as well as appropriate capacity building for O&M stage OHS management.  

Throughout the life of the project, ensure all workers receive appropriate OHS training as well as information on their rights, how to access the labor GRM, etc. Ensure all contracted workers sign codes of conduct, and supervise their enforcement.  

**ESS 3 Resource Efficiency and Pollution Prevention and Management**

Carry out water balance assessments for each SIAS (including future subprojects), as part of the corresponding technical and ESIA studies. Results to inform water efficient and ecologically appropriate subproject designs and management regimens.
<table>
<thead>
<tr>
<th><strong>ESS 4 Community Health and Safety</strong></th>
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<tbody>
<tr>
<td>Complete water balance assessment for JCV dam as part of technical and ESIA studies for JCV dam improvement works.</td>
</tr>
<tr>
<td><strong>ESS 4 Community Health and Safety</strong></td>
</tr>
<tr>
<td>Adopt and implement measures and actions for traffic and road safety as part of subproject ESMPs, and ensure their implementation throughout the life of construction works.</td>
</tr>
<tr>
<td>Adopt and implement appropriate measure and actions to manage labor influx issues as part of subproject ESMPs. Such measures to include: codes of conduct for all project workers; contractor camp management requirements; STD education campaigns; etc.</td>
</tr>
<tr>
<td>Contract a Dam Safety Panel of Experts to review and guide on all dam safety issues, including reviewing assessments and plans, providing training and capacity building to dam operators, etc. At minimum this will include JCV dam and La Paz SIAS.</td>
</tr>
<tr>
<td>Commission a comprehensive dam safety assessment of the JCV dam plus its expanded capacity, and update dam safety plans, including emergency preparedness plan and emergency action plan, as per the assessment findings.</td>
</tr>
<tr>
<td>For La Paz and any other SIAS investment involving large embankments/dams, carry out safety assessments, complete emergency plans and ensure appropriate organizational arrangements and capacity to oversee their implementation during the O&amp;M phase.</td>
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</table>

**ESS 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement**

| Develop, and implement prior to any construction, RAPs wherever required in accordance with the RPF. This is expected to include: JCV works, SIAS and possibly hydromet stations. | 05/2023 |
| Provide adequate evidence of voluntary and adequately informed willing seller arrangements for subprojects where land purchased for project purposes, as part of each subproject ESIA. | 06/2023 |
| Set up and ensure full accessibility of a GRM for land acquisition and resettlement related issues for any activity requiring a RAP. | 03/2023 |

**ESS 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources**

| For JCV dam, define and implement a comprehensive plan for reforestation, watershed protection and enhancement to be carried out in the dam’s immediate catchment area, to address the direct loss of forest habitat from raising of the reservoir. | 03/2022 |
| For any future subproject or activity that causes significant impacts to natural habitats or biodiversity, ensure appropriate management measures in accordance with the mitigation hierarchy, and if needed, a stand-alone biodiversity management plan. | 06/2023 |
For reforestation and forest management related activities under the project, ensure full implementation of ESS6 requirements on sustainable forest management.  

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<tr>
<th>ESS 7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities</th>
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<tr>
<td>Develop, consult, disclose and implement Indigenous Peoples Plan, in accordance with the IPPF, for all subprojects which may affect (either positively or negatively) indigenous peoples, prior to works completion of the corresponding subproject.</td>
</tr>
<tr>
<td>Ensure culturally appropriate GRM and stakeholder engagement modalities for any subproject or activity affecting or involving indigenous peoples. Specify details in the subproject IPPs.</td>
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<tr>
<th>ESS 8 Cultural Heritage</th>
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<tr>
<td>As part of all ESIA studies, carry out assessments of potential cultural heritage impacts. Avoid impacts where possible through redesigns; otherwise, develop cultural heritage plans as per the ESMF.</td>
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<tr>
<td>Ensure chance find procedures are incorporated in all bidding documents, and enforced throughout construction.</td>
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<th>ESS 9 Financial Intermediaries</th>
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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:**

The project will comply with all applicable national laws and regulations, which in many areas are consistent with the objectives of the ESSs; however, no formal reliance on national systems is being considered, and project-specific ESF compliant instruments and processes have been developed.

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**IV. CONTACT POINTS**

**World Bank**

<table>
<thead>
<tr>
<th>Contact</th>
<th>Title</th>
<th>Telephone No</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
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<td><a href="mailto:dcasanova@worldbank.org">dcasanova@worldbank.org</a></td>
</tr>
<tr>
<td>Marco Antonio Aguero</td>
<td>Senior Water Supply and Sanitation Specialist</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Borrower/Client/Recipient
Borrower: Secretaria de Finanzas de Honduras (SEFIN)

Implementing Agency(ies)
Implementing Agency: Honduran Strategic Investment Office (INVEST-H)

V. FOR MORE INFORMATION CONTACT
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Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects

VI. APPROVAL
Task Team Leader(s): Juan David Casanova Anoll, Marco Antonio Aguero
Practice Manager (ENR/Social) Valerie Hickey Cleared on 03-Feb-2020 at 17:39:5 EST
Safeguards Advisor ESSA Maria Da Cunha (SAESSA) Concurred on 04-Feb-2020 at 19:09:43 EST