Environmental and Social Review Summary (ESRS)

Jilamito Hydroelectric Project (#11784-08)

[Original language of the document: English]

1. Overview of Scope of IDB Invest's Environmental & Social Review

IDB Invest has been working with INGELSA (hereafter "INGELSA", the "Client" or "the Company"), since early 2017. An initial scoping for the Jilamito Hydroelectric Project (hereafter "The Project") site visit took place in February 2017. Two subsequent field visits included: (i) an initial due diligence in March 2017, in conjunction with a prospective co-investor in the Project; and (ii) a second due diligence in June 2018, together with a potential co-lender to the Project. In both cases personnel involved included IDB Invest and co-lender/co-investor E&S specialists, an independent E&S consultancy firm as well as Client representatives. During those visits IDB Invest staff consulted with landowners, local non-governmental organizations (e.g. PROLANSATE: *Fundación para la Protección de Lancetilla, Punta Sal y Texiguat*; CALIJINUL: *Cooperativa Agroforestal Liberación Jilamito Nuevo*, and MADJ: *Movimiento Amplio para la Dignidad y Justicia*), local officials as well as other stakeholders. As part of the due diligence process IDB Invest reviewed Client's existing ESIA documentation and its E&S policies, plans, and procedures. This analysis identified several information gaps, which have been filled and will be enhanced by the Client through commissioning additional E&S studies.

2. Environmental and Social Categorization and Rationale

This Project has been classified as a Category 'A' Project, pursuant to the IDB Invest Environmental and Social Sustainability Policy, since, during its construction phase, it could generate the following adverse environmental and social impacts: (i) removal, disturbance and/or degradation of natural and critical habitats (especially forest habitats for herpetofauna); (ii) erosion and soil washing, due to the construction of the accessway to the conduction tunnel, localized works for installing the cable car towers, change in land use/clearing needed for establishing the workers' camp, water intakes and material deposits; (iii) generation of dust and changes in air quality during road improvement works and associated accesses to the transmission line; (iv) disruptions to vehicles and traffic, especially on secondary roads, and potential difficulties in access to or temporary impact on economic activities in neighboring communities or towns; (v) increase in the level of occupational health and safety risks for workers involving work at high elevations and/or in forested areas, as well as risks related to use of explosives; (vi) potential water and soil contamination by hazardous waste; (vii) increased noise and introduction of vibrations; (viii) increase in social tensions/conflict e.g. national attention from human rights groups, conflict with local communities and/or conflict with local government; (ix) noise and introduction of vibrations; and (x) risks related to landslides, flooding and earthquakes.

Risks related to the Project's operational phase relate to: (i) modification of water flows and potential impacts resulting from reduced flows in the diverted section of the Jilamito River, specifically on riparian species; (ii) generation of social tension/conflicts as well as environmental issues; and (iii) possible economic displacement related to land use change.

3. Environmental and Social Context

Project's Area of Influence and Affected Communities

The Project is located in the village Jilamito, municipality of Arizona, Department of Atlántida, on the north coast of Honduras, between the coastal plains of the Caribbean Sea and the mountain range called "Name of God" (*Cordillera Nombre de Dios*). According to the population census (2013) of the National Institute of Statistics (INE), the municipality has a population of 23,714 inhabitants, of which 12,045 are women and 11,668 men and a total of 5,939 homes. The main economic activities in the area are: agriculture, livestock, forestry, trade and ecotourism. The agricultural activity is the main source of income, with the production of basic grains, fruits and vegetables at the level of family orchards. The climatic conditions of the site are characterized by a very rainy tropical climate, with abundant rainfall throughout the year – the months of March to May are the driest ones. The average annual temperature varies between 26°C and 29°C, and the minimum temperature is approximately 19°C.

The Project takes advantage of the waters of the sub basin of the Jilamito River, pertaining to the Lean River basin. The determination of the Project's area of influence -for both social as well as biophysical components- was made as part of the environmental impact assessment process, and it was carried out based on established forest/watershed management criteria and validated by SERNA (*Secretaría de Recursos Naturales y Ambiente*). Based on these criteria, three groups of communities have been identified[1], as follows: i) communities in the Project's area of direct influence (Caserío San Rafael, Aldea Jilamito Viejo, Aldea Jilamito Nuevo, and Aldea Hilamo Nuevo); ii) communities in the Project's area of indirect influence (Aldea de Mezapa, Aldea El Retiro, Caserío El Empalme and Caserío Lean); and iii) Aldea Mezapita, a community in the 'area of special influence'[2].

Project's Environmental Setting

The Project is partially located in the buffer zone of a protected area (wildlife refuge) called "*Refugio Silvestre de Via Silvestre Texiguat*" (RVS Texiguat or "the Refuge"), pertaining to the *Cordillera Nombre de Dios* mountain range. The Refuge is a remote cloud forest environment, a hotspot for amphibian and reptile diversity in Central America, and home to several endemic species, most of which are categorized either as Endangered (EN) or Critically Endangered (CR) by the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species[3]. Hence, potential critical habitats for several amphibian and reptiles as well as one plant species have been identified within the Refuge, and some also occurring within the Project's directly affected area (see section 4.6 below).

4. Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

4.1 Assessment and Management of Environmental and Social Risks and Impacts

4.1.a Environmental & Social Management System (ESMS)

[1] through which the minimum area of management is the hydrographic basin which drains a certain river with all its relevant environmental and socio-economic social interactions.

[2] Aldea Mezapita is considered under a 'special influence area' of the Project given its geographical location and the potential provision of services (like petrol station, routes of access, provision of housing services and construction material suppliers). Mezapita currently provides these goods and services to one of the companies of the corporate group IESA that is used as headquarters for the execution of the Jilamito Hydroelectric Project.

[3] https://www.iucnredlist.org/

INGELSA has experience in managing E&S aspects of hydropower facilities of similar characteristics -albeit of a lower complexity- to Jilamito (the Mezapa hydroelectric project in a nearby watershed). However, the Project is taking place during a period of increased national social pressure and resistance to hydropower development, and in a more sensitive environmental setting.

INGELSA has adapted the IFC's 'Environmental & Social Management System [ESMS]– Implementation Handbook' document into a manual for the elaboration of the Project's ESMS, aligned with Performance Standard 01 requirements[4]. However, the Project's ESMS is currently in its developmental stage.

4.1.b Policy

INGELSA has an environmental policy that includes legal (permitting) aspects, reporting regulatory commitments, supply chain sourcing of materials, auditing, and implementation of some specific plans (e.g. reforestation). The Project has a commitment to implement Good International Industry Practices (GIIP) as outlined in IFC's good practice note 'Environmental, Health, and Safety Approaches for Hydropower Projects' (March 2018). However, INGLESA's Environmental Policy does not mention this commitment and thus the Client will update the Policy accordingly.

4.1.c Identification of Risks and Impacts

Project's key risks and impacts depicted in section 2 of this document are those typical a run-of-the-river hydroelectric project and have been adequately identified in the DAC (*Diagnóstico Ambeitnal Cualitativo*) and subsequent, complementary studies were carried out as detailed below. The impacts associated with the construction phase are considered moderate to high particularly relating to social risks and impacts to biodiversity and critical habitats. Operational impacts are considered low to moderate, the latter related to the dewatered section of the Jilamito river for amphibian biodiversity.

The Project has received an environmental license from SERNA, based on a DAC carried out in 2013 which identifies some key risks and impacts for both construction and operation phases, provides mitigation measures to manage those impacts, but does not contain social or biodiversity baseline surveys. Therefore, subsequent to the DAC, IDB Invest has worked with the Client by developing the following complementary studies: (i) analysis of alternatives; (ii) cumulative impacts assessment; (iii) traffic impact study; (iv) ecological flow analysis; (v) critical habitat assessment; (vi) transmission line impact assessment; (vii) social impact assessment; (viii) flora and terrestrial fauna inventory; (ix) aquatic fauna (fish and invertebrates) inventory; (ix) field biodiversity baseline report covering critical herpetofauna (amphibian and retiles); and (x) an integrated ESIA, consolidating all previously mentioned studies (Mott MacDonald, 2018).

The assessment of alternative sites and technologies in the Project design has resulted in relocation of the powerhouse from the Jilamito river to its adjacent tributary (Quebrada Los Olivitos), resulting in better accessibility, improved topographic stability and a smaller footprint. Similarly, the final route alignment chosen for the Project's transmission line is the least impactful.

The biodiversity baseline has been enhanced by collecting field data on key threatened amphibian and reptile species in the Project's area of influence, with oversight by The Smithsonian Conservation Biology Institute's Center for Conservation and Sustainability (CCS), acting as IDB Invest's independent technical

[4] Manual de Implementación del Sistema de Gestión Ambiental, Social y Seguridad Ocupacional (MASS, sin fecha).

advisor. However, some sections of the upper reaches of penstock alignment have not yet been sampled, and the initial aquatic baseline is incomplete. The baseline for some important groups such as birds, bats and mammals also needs updating with in situ information.

The ESIA (2018) identifies a range of mitigation measures to address the key environmentally related construction phase impacts which are grouped by the type of impact, such as: i) erosion and sedimentation; ii) increased storm water runoff; iii) contamination by accidental spills; and iv) waste and wastewater generation. Similarly, for the operation phase, the mitigation measures are organized around changes to the downstream flow regime, erosion and sediment dynamics, contamination by accidental spills, as well as waste/wastewater generation. However, the ESIA does not fully contemplate (i.e. quantify) potential impacts to critical habitat biodiversity in forested ecosystems within the Project's area of direct influence.

Nevertheless, key results of complementary field studies have confirmed substantial presence of threatened biodiversity (herpetofauna) in all areas that will lodge the Project's infrastructure components.

The Project's key social risks relate to community health and safety aspects (increased in traffic-related risks), worker influx management (e.g. communicable diseases), and emergency preparedness and response issues. INGELSA has enhanced the Project's social baseline by collection of recent field data on social and labor characteristics of local communities.

4.1.d Environmental & Social Management Programas

INGELSA is currently working on several E&S management plans (ESMPs). The Project has a general Environmental Management Plan (EMP: *Plan de Gestion Ambiental*-PGA), originally developed as part of the DAC assessment, which contains a set of best practices and recommendations for mitigating risks and impacts to meet national requirements. In addition, according to the ESIA, the Project has committed to developing an environmental and social management plan for the construction phase. INGELSA's key EPCM contractors will adhere to the applicable IFC EHS Guidelines, and the Company will ensure contractors' EHS Plans are aligned with the Project construction ESMP.

The Company also has a preliminary Health & Safety (OHS) Plan, which needs to be refined (to include e.g. an analysis of work activities, associated risks, control actions, accident statistics, incident investigation and root cause analysis, audit procedures, equipment/vehicle inspection, workers' and materials' transport, training and induction, etc.) and separated for the construction and operation phases.

Other plans that are either under development or needed to be developed, include: i) Local Workers' Recruiting Program; ii) Reforestation Plan (revisions to the current version); iii) Community Engagement Plan; iv) Biodiversity Action Plan (BAP); and v) Emergency Preparedness and Response Plan (building up from the existing Contingency Plan).

For the Project's operational phase, INGELSA will hire an operations and maintenance (O&M) contractor who will develop EHS plans and implement them through environmental, health and safety management systems consistent with IFC PS requirements.

4.1.e Organizational Capacity and Competency

The Company's structure includes a CEO, a CFO and a Steering Committee at the senior management level. Under this arrangement and for the construction phase, the Company has a Financial Director and a Project Director, and the latter is responsible for six Departments: i) Control and Logistics; ii) Construction Superintendency; iii) Technical Support; iv) Electromechanical Works; v) Occupational Health & Safety (OHS); and vi) Environmental & Social (E&S).

INGELSA has produced a document that details the organizational structure and organigram for the E&S Department for the Project (Environmental and Social Organizational Structure for the Construction Stage-E&S Management), including the functions and responsibilities, mandate and profiles of specialists in charge of further developing and implementing the Project's Environmental & Social Management System (ESMS)[5].

The E&S department is not yet fully staffed. However, the head of the E&S Department, responsible for managing the E&S aspects of both the construction and operation of the Jilamito project as well as for operation of the existing hydropower plant of Mezapa – the latter belonging to a sister company of the sponsor group; has recently been appointed. The E&S Department is organized around three coordinators: i) Social, responsible, amongst others, for implementing the Project's Grievance, Complaints & Suggestions Mechanism' (MQRS) and for community engagement; ii) Environmental & Forestry, who is supported by a social coordinator, a biodiversity specialist and two staff overseeing the plant nursery; and iii) Biodiversity, who will take care of al biodiversity-related issues. The community engagement coordinator/specialist and an MQRS focal point positions are still vacant.

The Company's proposed E&S organigram and staffing needs (headcount) need to be better described in terms of the expected level of effort and required skills set for each position description, and enhanced in terms of reporting lines (e.g. E&S line manager's reporting line).

4.1.f Emergency Preparedness and Response

INGELSA has prepared a Contingency Plan (*Plan de Contigencias*) that outlines the potential emergency situations[6], and provides some general guidelines to prevent and respond to potential contingencies. However, the plan does not include a risk identification and analysis process to evaluate the probability of occurrence of each event, its severity, etc. (e.g. including a Safety Integrity Level analysis and/or a Quantitative Risk Analysis).

According to independent engineer (Hatch, 2018) the 100-year return period for all structures in terms of disaster risk assessment, is noted as at the low end of what is typically provided for other small hydro projects, for which seismic criteria are still needed for the design of powerhouses, penstock anchor blocks and small diversion structures and de-sander. Therefore, it recommends the seismic value should be confirmed upon review of the '*Código Hondureno de Construcción*', which may require a higher return period for essential type buildings like powerhouses and dams.

[5] INGELSA: Proyecto Hidroeléctrico Jilamito – Gerencia Ambiental y Social. Estructura Organizativa Ambiental y Social para la Etapa de Construcción' (agosto 2018).

[6] Such as occurrence of landslides, collapses, earthquakes, electrical accidents, oil or fuel spills, fire, blasting accidents (due to the use of explosives), occupational accidents, social tensions and conflicts, sabotage or terrorism, as well as other technical problems.

Specific procedures and protocols for each emergency and disaster scenario also need to be developed accordingly, considering both construction or operation phases.

4.1.g Monitoring and Review

The Project's Environmental Management Plan (EMP/*Plan de Gestion Ambiental-PGA*) includes periodic reports to the environmental permitting agency (SERNA) based on monitoring activities to be undertaken during the operational phase to ensure that enough ecological flow is being maintained downstream the project and avoid any negative impacts on the aquatic ecology or other related flora or fauna in these river systems. However, the EMP has not yet defined indicators for regular monitoring and evaluation purposes.

On top of the regulatory supervision that will carried out by the SERNA, IDB Invest will conduct regular monitoring visits to the Project during both the construction and operation phases. Lastly, biodiversity expertise of international standing will be retained to act as the Project's independent progress evaluation function, for the development and implementation of the activities of the Biodiversity Action Plan, in particular the biodiversity offset for herpetofauna.

4.1.h Stakeholder Engagement

4.1.h.1 Stakeholder Analysis and Engagement Planning (and ongoing participation)

In line with national legislation, a "Socialization Process for the Jilamito Project", that began in 2006 (conducted by SEMSA, a sister company) and continued later (2013) under the direction of INGELSA, took place, aiming at providing technical information of the Project in its different stages to local population and stakeholders, including the benefits that it will generate and the attention to questions and worries on environmental and social impacts[7]. The process began in the main communities of the area of influence (Jilamito Nuevo, Jilamito Viejo, Mezapita, Mezapa and Jilamo) and included the main authorities of Arizona District and representatives from key government institutions.

The Client has do far identified, among others, the following key stakeholders: i) employers' boards ('juntas patronales'/'Patronato'); ii) local business organizations legally recognized by the government; iii) local business owners (in Jilamo); iv) water management boards[8] ('*juntas de agua*'); v) local conservation NGOs (PROLANSATE and CALIJINUL); vi) national social movement NGOs MADJ[9] and COPINH (*Consejo Civico de Organizaciones Populares e Indigenas de Honduras*)[10]; vii) local land

[7] Informe del Proceso de Socialización – INGELSA (Noviembre, 2015). The report details local meetings about the Project going back to 2006, and involving several organizations e.g. Municipalidad de Arizona, SERNA, ICF, ANPFOR, COATLAHL, SOCODEVI, PROLANSATE, Patronatos, Juntas de Agua (Jilamito Nuevo y Jilamito Viejo), Sociedad Colectiva Margarito Deras y Asociados de Jilamito, Sociedad Colectiva Fausto Flores de Jilamito, representatives of the community of Jilamito, ELECNOR y SEMSA.

[8] With indirect incidence on the Project because water abstraction only occurs from streams and ravines located in nearby areas and corresponding to the Lean basin.

[9] MADJ is an organization dedicated to combating corruption and upholding human rights in Honduras. MADJ has been advocating for environmental and land rights of indigenous communities in the context of mega-projects and industrial mining. In October 2015, MADJ along with four other organizations, brought a case to the Inter-American Commission for Human Rights on embezzlement and corruption activities by public officials of the Honduras Institute for Social Security (IHSS). Because of previous instances of attacks, threats and harassment against MADJ, on 12/19/2013 the Commission granted precautionary measures to MADJ's 38 members and their families.

[10] COPINH was founded in 1993 with the objective to defend rights in context of exploration and exploitation of natural resources, working mostly in the departments of Intibucá, La Paz, Cortez, Comayagua and Lempira. One of the emblematic projects that COPINH has been followed is the Hydropower Project Agua Zarca, developed by DESA. COPINH has been leading and participating in protests against Agua Zarca Project and others. Its leader, Berta Caceres, was murderer in her house in February 2016. Aggressions and threats to other members of the organization in Honduras have continued after Berta´s murder.

owners/occupants; viii) local communities cited above; ix) politicians (e.g. mayors); and x) communities outside the Project's areas of (direct/indirect) influence in municipality of Arizona.

4.1.h.2 Disclosure of Information

The environmental and social impact studies, complementary assessments, baseline surveys, as well as Project environmental permits can be found in IDB Invest's website. However, prior to IDB Invest's disclosure, very little information about the Project was available.

4.1.h.3 Consultation

Regarding consultation activities, the following were conducted: i) a socialization campaign that consisted of house-to-house visits in the area of influence in order to inform about and seek acceptance to the Project (resulting in >95% acceptance i.e. 758 signatures); ii) training workshops on hydropower projects characteristics for the communities of Mezapa, Matarras, El Empalme and Mezapita (colonia Supaya) which were focused on school teachers due to the technicity of the content (with >90% of acceptance); and iii) guided tours to the hydropower plant of Mezapa, in order to provide a better understanding of technical aspects (with participation by residents of Aldea Jilamo, Jilamito Viejo and Jilamito Nuevo).

In the opinion of interviewees (especially the authorities), communication with the Company is good, open and ongoing, although INGELSA currently lacks a community engagement coordinator/specialist. They believe that the main benefit generated by the Project will be job creation, which is associated with better living conditions because it provides more stable and higher incomes than those obtained from cattle breeding and agriculture.

To this end, the communities suggested further informative campaigns to be carried out, in which the hiring procedures used by the Company will be explained. However, the main concern mentioned by the interviewees was the potential damage that the Project might cause by pollution of water bodies.

The Project's socialization is also happening in accordance with Decree 212/2010[11]. The key requirements from SERNA in that respect include: i) a 'Social Investment Plan' to be developed and agreed upon (i.e. signed) directly with the communities in the Project's area of direct social influence; ii) an agreement with CALIJINUL[12],; iii) an agreement with PROLANSATE[13]; and iv) a study regarding the improvements to the existing access road and construction of new segments, with the associated mitigation measures that will apply to minimize environmental impacts[14].

The Socialization Process implemented by INGELSA during the last years has helped to clarify doubts around impacts in water quality and quantity, especially with the guided tours to the hydroelectric project in Mezapa. This process remains ongoing through meetings with community representatives and stakeholders, attention to requests for social benefits and queries about the Project's technical aspects.

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[11] Which dictates that energy generating companies must participate in projects for social improvement of the communities that are located within the direct influence area of their projects.

[12] The so called "Agreement of socialization for coexistence, tolerance and acceptance of the development of the Jilamito Hydroelectric Project between INGELSA and the cooperative", has been signed in August 2016

[13] PROSANLATE is the foundation that manages the Texiguat Wildlife Refuge. The correspondent agreement was signed in August 2018

[14] Already concluded in November 2016.

In general, the level of engagement and identification of the Company within communities of the area of influence seems close, which has allowed the Client to garner good acceptance of the Project.

4.1.h.4 Informed Consultation and Participation

The Project has developed a 'Jilamito Forest Watershed Management Plan', which offers a useful framework for community participation and investments in the areas of water and forest conservation, reforestation, environmental education and waste management. The Plan offers opportunities for direct participation of communities in all three programs: i) Integrated Natural Resource Management, which includes the subprograms Protection, Greenhouses, and Reforestation and Plantation Management); ii) Capacity Building and Environmental Education; and iii) Community Development. Other Project related plans will have a direct interface with, and hence allow community participation, in: Forest Watershed Management Plan, Community Engagement Plan, Biodiversity Action Plan, and the Community Health & Safety Plan.

To date, the Company has already signed some agreements with communities that have resulted, for instance, in maintenance of the public road, classroom and classroom roof construction, school electrification, construction of a sports court, reforestation projects, environmental education campaigns and garbage clean-up campaigns.

4.1.i External Communications and Grievance Mechanism

4.1.i.1 External Communications

Notwithstanding the need for development of renewable energy, there is a growing national and international attention to hydropower project impacts in Honduras, especially in relation to water sources for human consumption, lack of socialization of environmental impact assessments, the criminalization of protest (in the cases where opposition exists), and the critical situation derived from the recent murders of environmental activists[15]. The Project has not been oblivious to this situation: back in 2015, a social protest organized by a group of residents called for a town meeting in the Arizona Municipality with the intent of declaring the area free of mining and hydroelectric exploitation. According to information gathered during due diligence, the COPINH (*Consejo Civico de Organizaciones Populares e Indigenas de Honduras*) had contacted some local opponents of the Project with an aim to boost protests; in 2017 the MADJ enlisted a handful of community members who, for a few weeks, blocked the access road to the future site of the Project's powerhouse.

As a response to initial negative reactions, from 2016 through 2018, INGELSA intensified community consultation and engagement efforts which, according to Client documentation, have secured broad level of local support for the Project. These efforts have involved outreach meetings involved the communities of the area of influence, public authorities (e.g. UMA, police department), the catholic church, local NGOs (TROCAIRE, CALIJINUL, PROLANSATE) and the private sector (La Ceiba chamber of commerce), among others. One outcome of these efforts has been the subscription of cooperation agreements with CALIJUNUL and PROLANSATE.

[15] Honduras has been classified by Global Witness as the country with the highest per capita number of murders of environmental activists in the world, with 12 cases only in 2014 [Amnesty International, "We are defending the land without blood" Defenders of the Land, Territory and Environment in Honduras and Guatemala (2016), p.5].

In February 2018, the Client also took the initiative of drafting and proposing to sign a Memorandum of Understanding (MoU) with MADJ, with the objective of promoting respect for human rights and protection of the environment, and based on the principles of dialogue, transparency, credibility and accountability. However, to date, MADJ has not yet responded.

In June 2018, during the due diligence site visit, IDB Invest officers also had the opportunity to meet with a MADJ representative to discuss the Project and hear their concerns which revolved around general E&S impact themes that are fully addressed in Project E&S impact documentation. Notwithstanding significant recent progress in securing social license, considering both COPINH and MADJ's presence nationwide and MADJ's initial attention to the Project locally, it will be critical for INGELSA to keep steady efforts to maintain stakeholder engagement through steady outreach efforts to provide readily available, easy-to-understand and reliable information about the Project and its features, while at the same time minimizing risks of uninformed opposition.

4.1.i.2 Grievance Mechanism for Affected Communities

INGELSA has prepared a draft 'Grievance, Complaints & Suggestions Mechanism' (MQRS). Even though its scope mentions INGELSA workers, the MQRS is more focused on external stakeholders, especially considering that the mechanism's entry point for the community is INGELSA's E&S department (focal point: social coordinator).

INGELSA plans to install, as part of the Project's Permanent Information Office, local branches of the MQRS mechanism for outreach and social coordination work in Jilamito Viejo, Mezapita, and Jilamo, which will hold basic information about the Project, will be enabled to receive, register and follow up on grievances and will have suggestion boxes to receive stakeholder opinions and recommendations.

Nonetheless, while a general flowchart exists for dealing with requests/complaints, the mechanism lacks appropriate and separate grievance channels to deal with its intendent different external stakeholders (i.e. communities, NGOs, agencies), whereas internal stakeholders will have to be addressed separately through a dedicated Grievance Mechanism that will use the provisions of INGELSA's Ethics Code (for staff) or the Code of Conduct (for contractor workers).

4.1.j Ongoing Reporting to Affected Communities

INGELSA has developed a 'Community Engagement Plan' to ensure an open and ongoing dialogue with the stakeholders in the Project's area of influence, and that will also serve as a vehicle to publicize MQRS to outside parties. However, the Community Engagement Plan needs strengthening in areas such as: i) establishment of an annual planning process to include specific outreach actions and corresponding execution schedule, with assignment of adequate human and financial resources; ii) updating the stakeholder mapping system and implementing a documentation system -cadaster- of all community and stakeholder agreements, requests, suggestions, communications, and meetings to keep track of social management and engagement; and iii) engagement with local communities through establishment of a Permanent Information Office (PIO) for ongoing disclosure of project-related information and consultation[16], as well as appropriate interfaces with the Community Health and Safety and the Emergency Preparedness and Response plans.

[16] The Permanent Office will coordinate MQRS's undertaking to install local office(s) for outreach and social coordination work in Jilamito viejo,

4.2 Labor and Working Conditions

4.2.a Working Conditions and Management of Worker Relationships

4.2.a.1 Human Resources Policies and Procedures

INGELSA does not yet have a fully developed and company-specific human resources policy. It has an internal 'Work Regulation'[17] that outlines a series of requirements of workers, their rights benefits and obligations, company's responsibilities, certain expected employee behaviors and disciplinary provisions for breaches of conduct, as well as some general principles of working terms. The document makes a general reference to the (national) 'Work Code' as the applicable local legal framework but lacks some key elements required by PS2, such as an explicit prohibition of forced labor and child labor, prohibition of discrimination of any kind, as well as commitment to payment of minimum wage, and management procedures to regulate issues such as hiring, induction, performance review, exit briefings, and an ethics code.

INGELSA will also ensure and monitor that relevant parts of its human resource policies and procedures will be extended to cover the labor practices of EPCM contractors, so that they are consistent with national labor law and PS2.

INGELSA does not have its own Human Resources department or manager. It depends instead on its parent company, IESA, for this purpose.

4.2.a.2 Working Conditions and Terms of Employment

During the Project's construction and commissioning works, which are expected to be completed within 40-months from start date, about 400 workers will be hired by INGELSA. Most of them (about 80%) are estimated to be from the surrounding communities and therefore will continue to live in their current homes; the remainder will come from outside of the Project's area of influence and, hence, houses from the communities will be rented to lodge them. In all cases the provision of potable water, sewage system, and all other facilities will depend on the municipalities.

Temporary facilities to be set up during construction include guard house, warehouse, security housing, project accommodations and Owners and Contractor's offices - located at "El Nance", in the lower part of the access road from the bridge to the powerhouse site. These facilities will have individual potable water supply, restrooms, pantry, electricity, air conditioning, telephone and internet communications.

For specific works (water intakes, tunnel, and section of the conduction line), the project will have a mountain top accommodation that will house approximately 60 employees, which will be located approximately 50 meters from the surge chimney downstream. The workers' temporary camp (that will dismantled once construction is finished) will be equipped with dorms, offices, warehouse and will be supplied with potable water and portable latrines by a specialized firm.

4.2.a.3 Workers' Organizations

INGELSA's Work Regulation mentions that no employee shall interfere in another employee's right to unionize. However, it does not specify how INGELSA ensures freedom of association for its direct and indirect employees and other labor relations issues, such as arrangements for collective bargaining.

Mezapita, and Jilamo, based on timely, relevant, understandable, and accessible information.

[17] INGELSA - Reglamento Interno de Trabajo de la Empresa (sin fecha).

4.2.a.4 Non-discrimination and Equal Opportunity

INGELSA's Work Regulation is silent on prohibition of discrimination of any kind. It does, however, ensure some special work provisions (e.g. protection for pregnant women, provision for overtime pay, etc.).

4.2.a.5 Retrenchment

Influx related management issues (e.g. migrant workers) and retrenchment related risks are considered to be low, given that the majority of the workforce will come from the Project's area of influence. Notwithstanding, in order to ensure an orderly and structured end of civil construction works, INGELSA will prepare, in coordination with the key EPCM contractors, a synthetic demobilization plan containing at, a minimum, activities for transportation of non-local contractor's personnel, equipment, operating supplies away from the site, and payment of term-end employment benefits[18].

4.2.a.6 Grievance Mechanism

INGELSA has not yet fully developed and adopted a functioning internal Grievance Mechanism for its direct employees and existing or future contractor workers.

4.2.b Protecting the Workforce

INGELSA's Work Regulation sets a minimum age requirement for any kind of work at 18 years old but is silent on provisions against forced labor.

4.2.c Occupational Health and Safety

INGELSA's preliminary Health & Safety (OHS) Plan will be refined to become two separate OHS Plans, one for the construction phase and another for operation stage. EPCM contractors are expected to establish health and safety management and monitoring programs in line with INGELSA's OHS policy and plans.

INGELSA and its EPCM contractors will provide appropriate equipment, machines, and tools, which will be used by authorized qualified personnel solely for the purpose for which they were designed. All project personnel will be informed about the risks of each job; receive training in how to use the available materials and tools; will be trained in how to provide timely, appropriate aid to anyone injured in an accident; and be provided with appropriate personal and collective protective equipment, based on the risks to which they are exposed (i.e., uniforms, helmets, gloves, boots, goggles, harnesses, and hearing protection devices). For jobs involving explosives, a specialized company will be engaged, implementing the security measures stipulated by law.

4.2.d Workers Engaged by Third Parties

Local communities have high expectations for employment opportunities. Communities had requested, and INGELSA agreed, an understanding to secure investment in the area and to make commitments in relation to the number of people who will be employed from the area of influence and on the characteristics of the employment program. The Client has provided further information on these topics so that expectations on both sides are understood.

[18] The demobilization plan may also include other, non-E&S provisions such as disassembly; removal; and site cleanup of offices, buildings, and other facilities assembled on the site specifically for the EPCM contractors.

4.2.e Supply Chain

INGELSA's environmental policy contains an explicit commitment to give priority to environmentally friendly suppliers.

4.3 Resource Efficiency and Pollution Prevention

4.3.a Resource Efficiency

INGELSA is committed to the sustainable production of renewable energy from hydropower sources. As per the Company's environmental policy, INGELSA also gives priority to those suppliers offering environmentally friendly alternatives through recyclable, biodegradable materials and/or from clean energy sources. Given that the Project is a run-of-the-river facility it is not expected to generate material GHG emissions from the storage of water upstream of the weirs[19]. Conversely, the Project has a commitment to implement a 77-hectare reforestation program (with four campaigns per year), which should bring net positive climate impact.

As a general norm, bottled purified water, brought to the construction sites and stored in dedicated tanks (ESIA, 2018), will be used for human consumption. Water for construction activities will be obtained directly from the Jilamito River.

INGELSA will monitor water consumption throughout the construction and operation phases, in line with its water use permit (*Contrato de Agua*).

4.3.b Pollution Prevention

INGELSA must comply with the national regulations regulate waste management from production process.

4.3.b.i Wastes

Solid waste will be removed from the camp and general works area via the access road and cable car (peak generation at proximately 600 kg per day based on 400 employees in the construction phase). Collection points for domestic waste will be available in all areas of the project. The Project will use a private collection service that will transfer the waste from the Project to the municipality disposal site approved by UMA.

Organic waste will be stored on site (El Nance); inorganic recyclable wastes will be removed by specialized contractors with appropriate environmental license to operate.

Excavation spoil and inert debris will be reused in the Project -where possible- or deposited, contoured and revegetated in one of three defined locations: one alongside the penstock alignment; and two others along the headrace conveyor corridor.

Liquid waste produced in the portable latrines/toilets and washing facilities (approximately $3m^3$/day) will to be serviced/emptied on a regular basis determined by the contractor. Wastewater generated by worker accommodations (either own homes or rented houses), as well as in INGELSA's and EPCM contractors' administrative offices, will be treated in septic tanks. During the operation phase,

[19] According to the independent due diligence report by Golder (2017) the Project is not expected to produce more than 25,000 tons of CO_2 equivalent annually.

wastewater to be produced by approximately the remaining 25 workers (about 75 liters per day) will be treated by septic tank (to be installed) an absorption well and irrigation field.

An aggregate processing plant to be located at the power house site will be equipped with filters and screens to capture sediments and oils/greases to avoid river contamination by diesel or grease waste.

4.3.b.ii Hazardous Materials Management

No significant quantities of hazardous materials are expected to be used during construction and, in any case, explosives will be handled by a specialized, licensed firm.

Work fronts will be provided with appropriate containment bays around sites to control any potential spillage and avoid contamination of ground water.

4.3.b.iii Pesticides Use and Management

The Project does not anticipate the use of large quantities of pesticides; these will only be employed for discreet maintenance at the reforestation sites and at the greenhouses.

4.4 Community Health, Safety & Security

4.4.a Community Health & Safety

Potential community health and safety risks and impacts include: i) dust, noise and accidents from increased traffic movements on local roads; ii) increase in community exposure to disease or waterborne vectors; and iii) visual amenity impacts from removal of habitat (for which there is no specific mitigation measures for changes to landscape character). Of these, the more significant ones relate to the increased volume of traffic in local roads and potential for accidents.

In terms of noise, since the nearest human settlement is at least 500 meters away from the Project site, no material impacts are expected to be occur. Noise related to the substation and transmission line, as well as electromagnetic fields, are considered negligible.

4.4.a.1 Infrastructure and Equipment Design and Safety

The Project has performed a detailed assessment of alternatives for the transmission line, resulting in least occupational and community health risks.

As the Project does not have a dam structure that would result in a high-consequence of safety risk from downstream inundation in the event of failure, the Project plans to apply national building standards to consider the seismic risk in terms of potential weir rupture. The latter are considered moderate (Hatch 2018).

Increase of traffic to the Project will generate dust and noise, with the potential to affect the public health of the communities located along the road (Mezapa, Mezapita, El Retiro, Jilamo and others). It will also increase the risk of potential traffic accidents and will affect the following roads: i) moderate increase (10-15%) in traffic on national road CA-13; and ii) substantial (>25%) increase in traffic on local roads 311 (14.7km), El Nance intersection to Project site (new 7.5 km road) and Lean to Jilamito Nuevo to El Nance; affecting traffic function and safety.

INGELSA will develop and implement Community Health and Safety Plan and align all contractors with its strict compliance order to avoid conflict with neighboring communities.

During project operation the risk of traffic related accidents will decrease drastically.

4.4.a.2 Hazardous Materials Management and Safety

For the construction phase, no Project-related storage of hazardous materials will be allowed in/near communities. Similarly, works involving handling and use of toxic and hazardous materials will not be conducted in or near any human settlements, and transport of hazardous materials will only be conducted in appropriate vehicles, which will be prohibited from transporting passengers. The Emergency Preparedness and Response Plan will contain procedures for managing emergencies involving hazardous materials.

For the operation phase, planned maintenance activities in the powerhouse and along the transmission line will involve the production of low volumes of hazardous waste (i.e. waste oil, oily rags, paints, solvents, lubricants and greases) and their management will follow the ESMP procedures for operations.

4.4.a.3 Ecosystem Services

Silt build up behind the weir and in the settlement tank will result in temporary increase in sediment load in the Jilamito river. The Ecological Flow Management Plan for the operation phase will contain the necessary mitigation measures (e.g. controlled purging).

4.4.a.4 Community Exposure to Disease

Potential increased risks in community exposure to communicable diseases are associated with the influx of external workforce; however these risks are deemed to be small as only about 20% of the Project's workforce will come from outside the area.

INGELSA will provide mandatory training for all workers on prevention of communicable diseases, which will include expected behaviors as per the Code of Conduct for workers engaged by contractors, as well as awareness about workers' roles and responsibilities under the Community Health and Safety Plan and the Community Engagement Plan. It is also committed to providing improvements to social infrastructure, as per the Forest Watershed Management Plan, which could include prioritized healthcare-related investments amongst others.

4.4.a.5 Emergency Preparedness and Response

Project measures designed to safeguard public safety and protect life in case of accidents or emergencies will be contemplated in both the Emergency Preparedness and Response Plan and the Community Health and Safety Plan. These plans will include, amongst others, the identification of evacuation routes; location and access to local emergency services as well as shelters; estimates of both evacuation times and emergency services response times; and analyses of scenarios of potential injuries and access to adequate treatment facilities. If needed, INGELSA or its contractors may procure additional emergency/medical vehicle support.

4.4.b Security Personnel

Given the unfavorable national social context around hydropower development and initial potential sensitivities relating to the Project's perceived impacts locally, security activities may introduce (if not properly managed) hazardous situations towards workers and local communities in the course of protection of assets and people. Therefore, prior to beginning commissioning of work fronts, INGELSA will develop a Security Management Plan to ensure its own security guards and those of contractors are

vetted in terms of background checks, mandatory training and compliance with local firearm regulations, ensuring adherence to best international practice[20]. The Security Management Plan will establish the appropriate interfaces with, and respond to, priorities identified by the Community Health & Safety Plan.

4.5 Land Acquisition and Involuntary Resettlement

No involuntary resettlement has been produced by the Project. Land acquisition included 32 negotiations with owners and occupants resulting in land purchases, leases and easements on a willing-buyer willing-seller basis.

4.6 Biodiversity Conservation and Natural Habitats

4.6.a General

The herpetofauna of the remaining habitats of *the Cordillera Nombre de Dios*, such as the RVS Texiguat refuge, where the Project is located, is of global significance. Its importance increases with the addition of new information about this biodiversity hotspot[21]. Confirming that assertion, Townsend et al. (2019, in press) describe a new species of stream-dwelling treefrogs of the same name (*Atlantihyla aff. spinipollex*) of populations in the central and eastern *Cordillera Nombre de Dios*, and formally describe the Texíguat population a new species. According to Townsend et al. and following the IUCN criteria, the new species is considered to be Critically Endangered (CR – see footnote) due to ongoing habitat loss within what remains of its highly restricted natural distribution. This new species joins 26 other endemic species of amphibians and reptiles at Texíguat.

4.6.b Protection and Conservation of Biodiversity

The RVS Texiguat refuge and sites of endemism found within this mountain range are surrounded by significant population centers in the northern portion of the country, that act as irradiation sources of human encroaching ever farther into the upper reaches of the *cordillera* in search of additional areas from which to extract resources to provide their livelihoods. These population centers continue to grow haphazardly in an ecologically unsustainable manner, whereas public or private resources for promoting the protection and management of the remaining forests -including law enforcement- remain scarce to nonexistent. As a result, persistent illegal logging and forest clearing are compromising the evolutionary and conservation importance of this wildlife refuge, making Texiguat one of the most imperiled cloud forests in Honduras and Central America.

4.6.c Modified, Natural and Critical Habitat

A Critical Habitat Assessment commissioned by the Project (ERM, 2016), which involved a desk study and consultation with experts but did not include field surveys or data collection at the Project site, concluded that the RVS Texiguat is a Tier-1 critical habitat for at least ten species of herpetofauna[22]. It also revealed

[20] Good Practice Handbook: Use of Security Forces: Assessing and Managing Risks and Impacts – Guidance for Privet Sector in Emerging Markets (IFC, 2017): https://www.ifc.org/wps/wcm/connect/ab19adc0-290e-4930-966f-22c119d95cda/p_handbook_SecurityForces_2017.pdf?MOD=AJPERES

[21] Mesoamerica is one of the world's most important biodiversity reservoirs and especially the endemic component of the Central American herpetofauna. In the last two years alone 43 new species have been added to this component, bringing the total to 623 species, most of which (450 species, or 72.2%) are limited to a single physiographic region i.e. restricted range or potentially single-site endemics. Townsend et al. (2010a, 2011) concluded that the La Liberación area (i.e. the windward slope) of RVS Texíguat near where the Project is located is a herpetofaunal 'lost world' of endemism in Honduras, noting that the country features Central America's highest level of herpetofaunal endemism.

[22] Including: i) *Duellmanohyla salvavida* –CR; ii) *Incilius leucomyos* –EN; iii) *Plectrohyla chrysopleura* –CR; iv) *Ptychohyla spinipollex* –CR; v) *Anolis*

the presence of the rare shrub species of the buxaceae family (*Haptanthus hazlettii*) in the Project's area of influence. As a result, the assessment proposes a Net-Positive-Impact (NPI) type offset for Project related impacts to terrestrial biodiversity, but at the same time does not make inferences about what which species would be impacted and what those impacts would be, or the likelihood of success of an offset for endangered and critically endangered herpetofauna.

In 2017, the Project commissioned an aquatic macrofauna study comprising of fish and macroinvertebrate species. The study, essentially qualitative, was carried out at the end of the rainy season, so it is also not seasonally representative. However, none of the fish species identified[23] are range-restricted i.e. they all have broad regional distributions. Also, apart from the bigmouth sleeper and spotted algae-eating goby (both listed as Least Concern-LC), none of the other species have been evaluated by the IUCN.

The study indicates presence of the mountain mullet or *tepemechín* (*Agnostomus monticola*) and, based on interviews with local residents who reported recreational fishing in reaches of the Jilamito river, potential occurrence of the bobo mullet or *cuyamel* (*Joturus pichardi*). Neither species is listed by the IUCN, and the Jilamito watershed basin does not meet the criteria for critical habitats for any of these two species[24]. The aquatic macrofauna study proposes several additional or follow up activities to enhance the aquatic baseline, which will in any case be needed to confirm the above determination as well as for the development of the Project's ecological flow management plan.

In terms of terrestrial habitats and flora, the Project's Reforestation Plan[25] presents a full tree inventory of 64 species of trees (including 20 species that are considered commercially valuable). Regarding the biomass, from a sample of 3,871 trees only about 4% were described as mature, which indicates a high rate of ongoing forest exploitation.

The herpetofauna baseline assessment, conducted in 2018, included ten field survey transects as well as acoustic monitoring sites. The analysis of acoustic recordings, using ARBIMON II software[26], included the development of species-specific identification models to identify the presence of the different species. Amphibian tissue samples, collected through a non-lethal techniques, were used to detect the presence of the amphibian chytrid fungus *Batracochytrium dendrobatitis* (Bd) – a known cause of amphibian mortality and hence a key baseline parameter– in the laboratory.

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loveridgei –EN; vi) *Geophis damiani* –CR; vii) *Craugastor aurilegulus* –EN; viii) *Anolis kreutzi* –CR*; ix) *Geophis damiani* -CR; and x) *Tantilla olympia* –CR*). * = recommended IUCN listing. NE = not yet evaluated. The genus *Ptychohyla* has been renamed *Atlantihyla. A. spinipollex* (Ceiba stream frog) is presently known to represent two different species: *Atlantihyla spinipollex* latu sensu (EN) and *Atlantihyla aff. spinipollex* (new endemic species to Texiguat, recommended to be CR). The IUCN and Alliance for Zero Extinction have also identified Texiguat as a Key Biodiversity Area (KBA) based on the presumed presence of a significant population the frog *Isthmohyla insolita,* a CR listed endemic species last assessed in 2004. However, this species was not subsequently seen in suitable habitats of the same area at *La Liberacion* (Townsend et al. 2010, 2012). In addition to these species, the study noted that some other threatened species are to date known only from the Yoro side of the RVS Texiguat: i) *Craugastor saltauris* (NE)*; ii) *Craugastor stadelmani* –CR; iii) *Nototriton tomarorum* (NE); and iv) *Omoadiphas texiguatensis* (NE).

[23] The following fish species were found: i) the common three-barbeled catfish *Rhamdia sp.* (which could be either *R. guatemalensis*, *R. laticauda*, or *R. quelen*), ii) mountain mullet *Agnostomus monticola*); iii) shortfin molly *Poecilia Mexicana*; iv) banded astyanax *Astyanax fasciatus*; v) bigmouth sleeper *Gobiomorus dormitor* LC; vi) river goby *Awaous banana*; vii) spotted algae-eating goby *Sicydium punctatum* LC; viii) blue-eye cichlid *Cryptoheros spilurus*.

[24] Utilizing the numerical thresholds of the latest version of Guidance Note of IFC's Performance Standard 06 (updated on 11/15/2018): i) its area is not likely to sustain, on a cyclical or otherwise regular basis, ≥ 1 percent of the global population of a migratory species at any point of the species' lifecycle; or ii) its area is not predicted to support ≥10 percent of the global population of a species during periods of environmental stress.

[25] Plan de Reforestación Proyecto Hidroeléctrico Jilamito (undated).

[26] https://www.sieve-analytics.com/arbimon

For herpetofauna, results of the physical transect surveys indicate presence of the following species: i) the bufo frog *Incilius leucomyos*; ii) Miles robber frog *Craugastor aurilegulus*; iii) Ceiba stream frog *Atlantihyla aff spinipollex*; iv) Honduran brook frog *Duellmanohyla salvavida*; v) the hylid frog *Plectrohyla chrysopleura*; and reptiles: the anole lizards i) *Norops*[27] *loveridgei*; ii) *Norops yoroensis*; iii) *Norops zeus*; the colubrid snake iv) *Tantilla excelsa*; and the venomous pitviper (or palm viper) v) *Bothriechis guifarroi*.

The key results of the acoustic monitoring indicate that: i) five of the six amphibian species screened for were detected in the recordings from the 31 sites; ii) the new species of common free frog (*Atlantihyla aff. Spinipollex*) was detected in 15 control sites and in four impact zone sites – and its probability of occupancy increased with elevation; iii) the presence of the Honduran brook frog (*Duellmanohyla salvavida*) was detected in five control sites and two impact zone sites; iv) the broad-headed rainfrog (*Craugastor sp.*) was detected in three impact zone sites; v) the powdered glass frog (*Teratohyla pulverate*) (LC) was detected in one control site; and vi) species distribution models were created for the four species with sufficient data (i.e. present in 7 or more sites). The acoustic study did not detect the bufo frog (*Incilius leucomyos*) (EN) in any of the sites sampled acoustically, but this may be due to either an artifact given that the frequency range of its call occurs in the same range as the background noise of the river, or ecological requirements related to minimum altitude.

Although it has not been possible to estimate (i.e. quantify) impacts to the above-mentioned individuals or to their habitats, the studies show that there is a probability that the Project will bring about direct, potentially significant residual impacts to threatened biodiversity (albeit at a relatively small physiographical scale), even after applying best construction practices.

To address any significant residual impacts and risks to threatened herpetofauna, and to help reverse the current trendlines for these species, INGELSA will develop a Biodiversity Action Plan (BAP) aiming at assuring an NPI offset. The offset will be designed, and its implementation progress assessed, using best international practice[28].

Recently (January 2019) the Client conducted a qualitative herpetofauna survey for the Mezapa project, which is also partially located in RVS Texiguat's buffer zone. The survey has revealed the presence of the following four key species of threatened herpetofauna: i) Honduran brook frog (*Duellmanohyla salvavida)*; ii) ceiba stream frob (*Atlantihyla sp.)*; iii) Miles robber frog (*Craugastor aurilegulus)*; and iv) the bufo frog *(Incilius leucomyos)* – indicating occurrence of additional critical habitats for some of the same species as Jilamito.

[27] *Norops* is the proposed genus for more than 150 species of anole lizards traditionally classified in the genus *Anolis*. They are native to Mexico, South and Central America, and the West Indies.

[28] The biodiversity offset standard developed by the multi-stakeholder platform Business and Biodiversity Offset Program (BBOP, 2012) is considered best practice. Adherence to such principles, criteria and indicators will help ensure offset compliance to Performance Standard 06, provide a measure of its implementation progress, and ultimately also help ensure offset long-term success and sustainability. The BBOP alliance has produced a wealth of guidance documents for successfully designing and implementing biodiversity offsets e.g.
https://www.forest-trends.org/wp-content/uploads/imported/BBOP_Standard_on_Biodiversity_Offsets_1_Feb_2013.pdf
https://www.forest-trends.org/wp-content/uploads/imported/BBOP_Standard_Guidance_Notes_20_Mar_2012_Final_WEB.pdf
https://www.forest-trends.org/wp-content/uploads/imported/biodiversity-offset-design-handbook-pdf.pdf
https://www.forest-trends.org/wp-content/uploads/imported/biodiversity-offset-implementation-handbook-pdf.pdf

4.6.c.1 Legally Protected Areas and Internationally Recognized Areas

The RVS Texíguat wildlife refuge was established in 1987, with an original extension of 16,000 hectares. Subsequent to that, at the request of SEMSA -a sister company to INGELSA- the national protected area agency ICF (*Instituto de Conservacion Forestal*) issued in 2006 a '*dictamen*' (technical opinion) that expanded the refuge to 29,763 hectares. In 2016 the RVS refuge area had a further expansion to approximately 46,985 hectares. However, according to INGELSA, the project structures continue to be in the buffer area and outside the core zone of RVS Texiguat (about 1.5 km from estimated boundary line).

4.6.c.2 Invasive Alien Species

The biodiversity baseline report cites introduction of exotic species such as signalgrass (*Brachiaria sp.*) for creating pastures, as well as crop (e.g. coffee), fruit and ornamental species. Introduction of pets (dogs, cats) is also a threat to native biodiversity. However, there is no reference of exotics becoming invasive. In any case, the Reforestation Plan will be revised to include a procedure for locating/identifying establishment and eradication of potentially invasive plant or animal species

4.6.d Management of Ecosystem Services

There is no significant use of ecosystem services (water consumption or subsistence fishing for protein for local diets along) the dewatered reach of Jilamito. Also, there are no residential dwellings in the direct Project's directly affected area, and the land affected by the construction and operation of the hydropower plant was previously used almost exclusively for crops and grazing cattle.

4.6.e Sustainable Management of Living Natural Resources

The Project has an agreement with the CALIJINUL forest management cooperative to implement reforestation of degraded areas with native species (including nurseries), agroforestry activities as well as rationale use of forest resources from Project clearings for infrastructure development.

4.6.f Supply Chain

As mentioned above, INGELSA's Environmental Policy contains a specific provision that gives priority to those suppliers offering environmentally friendly alternatives through recyclable, biodegradable materials and/or clean energy sources.

4.7 Indigenous Peoples

There are no indigenous peoples in the project's directly and indirectly affected area

4.8 Cultural Heritage

The Institute of Honduran Anthropology and history (IHAH) conducted a site visit to the Project and issued an opinion[29] that specifically, states that: i) there is no evidence of archaeological remains that could be damaged along the surface of the route where the weirs will be installed; and ii) the same situation was found in the area where the Project will locate the power house and the transmission line. In the event of historical, anthropological, archaeological or paleontological findings or artifacts that have

[29] IHAH's opinion N° 089-SGP-2016

not been detected during inspections, IHAH will be notified to enable appropriate procedures for recovery or mitigation of damage to be defined.

The Client will implement a chance finds procedure for dealing with unplanned tangible cultural heritage. This will be integrated into the Project ESMP, which is under preparation.

5. Local Access of Project Documentation

5.1 Sede INGELSA: dos cuadras al norte del costado oeste de la Plaza Principal, Mezapita, Municipio de Arizona, Atlántida, Honduras

5.2 IESA/SEMSA/INGELSA: Curva La Victoria, Km. 13 Carretera a Puerto Cortés Choloma, Honduras, C.A. Tel: (+504) 2-565-2820 Ext. 114 / (+504) 2-565-2833 Cell: (+504) 9965-9072 / 4

6. Environmental & Social Action Plan (ESAP)

The ESAP is enclosed in the annex.

6. ENVIRONMENTAL & SOCIAL ACTION PLAN

Item #	Aspect	Action/Activity	Deliverable//Indicator	Schedule
Performance Standard 01. Assessment and Management of Environmental and Social Risks and Impacts				
1	E&S Policy	1. Update E&S Policy to incorporate the Performance Standards and GIIP	1. Updated policy approved by INGELSA Board	Before First Disbursement
2	Identification of Risks and Impacts	1. Enhance fish baseline by: i) conducting a full seasonal cycle of one dry and one rainy season sampling campaigns – to include upstream of the weirs; ii) use of geographic coordinates of sample points ; ii) use of more inclusive sampling techniques, such as electrofishing, to maximize species accumulation curves/capture-per-unit effort and identify any cryptic species; iii) characterizing microhabitats (e.g. rapids, pools etc.); and iv) produce species distribution graphs/occupancy along the river.	1. Updated fish baseline	Prior to start of any river diversion works
		2. Enhance herpetofauna baseline by sampling upper sections of penstock, as well as conduct a full inventory for *Plectrohyla chrysopleura* at the water intake areas	1. Updated herpetofauna baseline	Prior to start of any river diversion works (for *P. chrysopleura*) or upper penstock works (herps)
		3. Enhance baseline for birds, bats and mammals in the Project's footprint	1. Updated terrestrial baseline for birds, bats and mammals	Prior to start of construction works
		4. Enhance and update Project's E&S Risk Matrix	1. Updated Project E&S Risk Matrix	Ongoing
		5. Enhance social baseline for communities in the Project's area of direct influence e.g. by monitoring and measuring contribution to meeting local development needs (i.e. investments in social infrastructure: see items #25.1 and #25.2 below), identifying context-specific factors of vulnerability and monitoring identified vulnerable populations. Establish clear timelines for monitoring progress against social baseline conditions.	1. Evidence of continuous improvement of baseline	Ongoing
3	E&S Management System (ESMS)	1. Develop an Environmental, Social and Health & Safety Management System (ESMS) for the construction phase of the Project, to include: i) updated organizational structure, including roles, responsibilities & reporting lines of both the E&S and OHS	1. Document of the ESMS for construction	Before first disbursement

		departments; ii) a level-of-effort needs assessment and updated profiles for existing and to-be-hired positions for E&S department; iii) details of how the system is implemented; iv) protocols/procedures for a: E&S + OHS information management; b: decision making; c: monitoring, control and follow-up of management measures; d: independent audit & evaluation; e: continuous system improvement; f: (sub)contractor E&S management. The ESMS will incorporate legal/permit requirements and obligations, as well as the Performance Standards/EHS Guidelines.	Evidenced-based of ongoing implementation	Regular progress reports (ESCR)
		2. Develop an Environmental, Social and Health & Safety Management System (ESMS) for the operational phase of the Project	2. Document of the ESMS for operations	Three Months Before Commercial Operation Date (COD)
4	E&S Management Plan	1. E&S Management Plan (ESMP) – update plan for construction phase to integrate good international industry practice and align it with the Performance Standards (e.g. to include project standards, environmental procedures, quantitative indicators and monitoring and evaluation tools). Include a simplified Chance Find Procedure.	1. Updated ESMP for construction phase	Draft for Closing Final Before First Disbursement
		2. E&S Management Plan (ESMP) – operations phase	2. ESMP for operations phase	Three Months Before COD
5	Organizational Capacity and Competency	1. Fill the remaining vacant E&S and OHS positions to ensure adequate resources are available to manage the EHS aspects of the Project 2. Review E&S Staffing Plan in terms of: i) expertise and experience to manage anticipated Project requirements; ii) roles, responsibilities and associated level of effort (e.g. per the ESAP); and iii) reporting lines for the E&S (and OHS) managers iv) regular specialized training of E&S staff and awareness raising among all INGELSA staff of E&S policies and procedures.	1. Provide CVs of selected candidates 2. Revised Staffing Plan	Before Board approval (E&S) and First Disbursement (OHS – see below in #15.5) Before Closing
6	Emergency Preparedness and Response	1. Upgrade the Contingency Plan and turn it into an Emergency Preparedness and Response Plan for the construction phase, including e.g.: i) a procedure for managing emergencies involving hazardous materials; ii) identification of critical receptors/routes, location and capacity assessment of local emergency services; iii) an analysis of response times, in relation to severity/injury scenarios and access to adequate treatment facilities (if needed,	1. Updated Emergency Preparedness and Response Plan – Construction Phase	Before First Disbursement

		INGELSA or its contractors may need to provide additional emergency/medical evacuation support); iv) develop the interrelations with the Community Health and Safety Plan; v) apply appropriate seismic building codes[30]; vi) develop a business continuity plan; and vi) align Plan's roles & responsibilities with all EPCM contractors.		
		2. Develop an Emergency Preparedness and Response Plan for the Operations Phase – including a HAZOP with a Safety Integrity Level analysis and/or a Quantitative Risk Analysis process against both natural and man-made disasters to evaluate the probability of occurrence of each event, its severity, and appropriate management responses	2. Emergency Preparedness and Response Plan – Operations Phase	Three Months Before COD
7	Grievance Mechanism for Affected Communities	1. Develop the Community Grievance Mechanism (MQRS) into a dedicated external grievance & complaints mechanism with corresponding responsibility and decision-making procedures – move internal (i.e. INGELSA and contractors) stakeholders into an independent Mechanism (see #10.3). Include an explicit commitment against reprisals or retaliation towards any project stakeholders as well as option for anonymous claims.	1. Revised Grievance Mechanism for Affected Communities	Before Closing
8	Contractors' EHS Plans and IFC EHS Guidelines	1. Develop Contractor EHS Management Procedure to ensure contractor's EHS plans are aligned with Project's ESMP for construction, including for social and labor requirements; 2. Include adherence to IFC EHS Guidelines in EPCM contracts	1. Contractor EHS management procedure 2. Amended EPCM contract	Before First Disbursement Before First Disbursement

[30] as set out in the Seismic Hazard Analysis of Honduras by the Civil Engineering Department, Earthquake Engineering Center of Stanford University;

9	Ongoing Engagement with Affected Communities	Strengthen the Community Engagement Plan to: i) ensure an open and ongoing dialogue with the stakeholders in the Project's area of influence, and ii) publicize the MQRS. 1. Strengthen the Plan through: i) annual planning process; ii) assignment of adequate human and financial resources; iii) provision of regular, public informative events and site visits to keep the population abreast on progress of Project's E&S management; iv) regular updates of stakeholder mapping system and implement regular, independent perceptions studies; v) registry of all community and stakeholder agreements, requests, suggestions, communications, and meetings to keep track of social management and engagement; vi) establish a Permanent Information Office (PIO) for ongoing disclosure of project-related information and consultation and to receive and register any grievances from the public; and vii) establishment of the appropriate interfaces with the Community Health and Safety Plan and the Emergency Preparedness and Response Plan viii) clear roles and responsibilities. 2. Project E&S information available in Spanish both at the IESA group's website as well as locally in hardcopy (e.g. at the Permanent Information Office – PIO(s) and/or administrative offices in the interim).	1. Revised Community Engagement Plan 2. Website http://iesa.hn/ingelsa/ Evidence of documents available at PIO	Before First Disbursement Before Board approval
Performance Standard 02. Labor and Working Conditions				
10	Working Conditions and Management of Worker Relationships	Human Resources Policies and Procedures Develop and implement human resources policies and procedures appropriate to size and workforce, consistent with PS 02 and national law. 1. An overarching Human Resources Policy with associated management procedures (using the Work Regulation as basis) to include, at a minimum, explicit prohibition of forced labor and child labor, commitment to payment of minimum wage and overtime, and adherence to minimum age requirements. Include clear language on freedom of association.	1. Approved HR Policy by Board	Before First Disbursement

		2. Develop an Ethics Code for INGELSA employees. Include, at a minimum, language on non-discrimination and procedures for addressing incidents of discrimination and/or harassment. 3. Develop a Code of Conduct for workers engaged by contractors, along the same principles as #10.2 above. 4. Develop an HR Procedure to monitor the performance of the EPCM contractors. Monitoring will include: i) regularly scheduled audits; ii) review of the EPCM contractors' internal reports and documentation; as well as iii) review of grievances logged by contractors' and subcontractors' workers through the Grievance Mechanism. 5. Assign dedicated HR management capacity and presence to address both Company as well employee/contractor specific issues close to the Project site	2. Approved Ethics Code by Board 3. Approved Code of Conduct for Contractors 4. Contractors' Procedure developed 5. Local HR support hired	Before First Disbursement Before First Disbursement Before First Disbursement Before First Disbursement
11	Working Conditions and Terms of Employment	Protection of Workforce 1. Develop and implement a procedure to inspect conditions and ensure workers' accommodation facilities are consistent with the IFC/EBRD Guidelines for Workers' Accommodations (e.g. potable water, sewage system, cleaning, power supply, etc.). Address/correct deficiencies and keep record of improvements done (to feed into ESAP items #13.1 and #14.1). 2. Policy commitment to provide written contracts to all employees.	1. Procedure developed	Before First Disbursement
12	Working Conditions and Management of Worker Relationships	Provide a clearinghouse and transparent point of call for prospective applicants for recruitment by INGELSA and EPCM contractors. The Program and Office will facilitate receiving, screening and referral of CVs (or applicant forms) available to prospective employers. 1. Develop a Local Workers' Recruiting Program and 2. Establish a Permanent Information Office (PIO) to maximize local hiring 3. Disclose/share the Local Workers' Recruitment Program and hiring procedures locally and through the Engagement Plan, to include consideration of gender equity principles.	1. Local Workers' Recruitment Program 2. Permanent Information Office (PIO) established 3. Recruitment Program and hiring procedures disclosed locally	Before First Disbursement Before First Disbursement Before First Disbursement
13	Influx Management and Retrenchment	1. Prepare, in coordination with the key EPCM contractors, a synthetic Demobilization Plan (containing e.g. activities for transportation of non-local contractor's personnel, equipment,	1. Demobilization Plan elaborated	One month prior to demobilizing any EPCM contractor

		operating supplies away from the site, and payment of term-end employment benefits).		
14	Grievance Mechanism	1. Establish a Grievance Mechanism for INGELSA employees and contractor workers with: i) appropriate responsibilities and reporting lines for addressing internal (i.e. INGELSA) and contractor grievances; iii) for internal issues, establish a relationship and linkages with INGELSA's Ethics Code; iv) include an anonymous claim option and ensure confidentiality in all cases; v) inclusion in the registry forms a typology of different claims, written and oral requests, suggestions, etc. to allow tracking of different kind of grievances.	1. Grievance Mechanism implemented	Before First Disbursement
15	Occupational Health and Safety	Prepare a Health and Safety Policy that establishes the standards to be achieved. 1. The Policy should cover at a minimum: i) objectives, ii) roles, responsibilities and duties of supervisors and workers in key positions; iii) safe working methods or systems for risky operations; iv) key means to disclose health and safety information; v) measures to establish safety committees; and vi) training. 2. Refine preliminary Health & Safety (OHS) Plan to become the OHS Plan for Construction phase. Include/develop a procedure to incorporate applicable provisions relating to jobs involving explosives (from the specialized company to be engaged). 3. Verify that EPCM contractors establish health and safety management and monitoring programs in line with INGELSA's OHS policy and plans 4. Develop an OHS Plan for Operations phase 5. Assign adequate human resources for Health & Safety management	1. Approved Health and Safety Policy by INGELSA Board 2. OHS Plan for Construction phase -Procedure as part of OHS Plan for Construction phase 3. Evidence of alignment between plans 4. OHS Plan for Operations phase (standalone or as part of ESMP - #4.2 above) 5. CVs of selected candidates	Before First Disbursement Before First Disbursement (Plan and Procedure) Before First Disbursement Three Months Before COD Before First Disbursement
Performance Standard 03: Resource Efficiency and Pollution Prevention				
16	Water consumption	1. Establish a quarterly Water Quality Monitoring Program as part of the Construction Phase ESMP (see #4.1 above) - with relevant KPIs e.g. for the sections of the river that will be altered by the activities of the Project	1. Water Quality Monitoring Program for Construction established	Before First Disbursement

		2. Establish a Water Quality Monitoring Protocol for Operations as part of the Operations Phase ESMP (see #4.2 above)	2. Monitoring Protocol for Operations developed	Three Months Before COD
17	Ecosystem Services	Temporary increase in sediment load in the Jilamito river needs to be adequately managed to keep impacts to water quality to a minimum. 1. Prepare an Ecological Flow Management Plan for the operations phase to contain the necessary mitigation measures (adaptive management according to the results of the Water Quality Monitoring Program)	1. Ecological Flow Management Plan elaborated	Three Months Before COD
18	Wastewater Management	1. Prepare a management procedure for domestic wastewater and process/rainwater management, which will include processing domestic effluents and establish rainwater runoff controls.	1. Wastewater Management Procedure developed	Before First Disbursement
19	Solid Waste Management	1. Develop Integrated Solid Waste Management Plan for the construction phase (standalone or as part of the Construction Phase ESMP) to include: i) waste types; ii) streams; iii) volumes' iv) final disposal site options and methods; and iv) auditing procedures 2. Develop Solid Waste Management for Operations phase (standalone or as part of the ESMP for operations).	1. Solid Waste Management Plan for the construction phase elaborated 2. Solid Waste Management Plan for the Operations phase elaborated	Before First Disbursement Three Months Before COD
20	Hazardous Materials Management	1. Develop a specific protocol on storage, handling and disposal of hazardous materials as part of the ESMP for Construction phase	1. Protocol developed	Before First Disbursement
21	Pesticides Use and Management	The Project does not anticipate the use of large quantities of pesticides. To minimize or eliminate risks from container spills, improper handling, inadequate use and/or disposal of containers, 1. Whenever used, pesticides must be managed as part of an Integrated Pest Management Strategy (IPMS) Protocol - with a documented plan, consideration of alternatives, and adherence to manufacture' recommendations for application.	1. IPMS Protocol developed	As needed
Performance Standard 04: Community Health, Safety and Security				
22	Community Health and Safety	1. Develop a Community Health & Safety Plan to contain, at a minimum; i) identification of critical receptors/routes, location and capacity assessment of local emergency services; ii) driver cadaster with license documentation; iii) safety induction training and driver awareness activities; iv) vehicle safety inspections; v) adequate road signage; vi) use of good practice measures to	1. Community Health & Safety Plan	Before First Disbursement

			reduce the likelihood of suspended particles; vii) periodic checks on regular maintenance of vehicles; and viii) socialization and outreach activities with informative materials on best transport safety practices aimed at project employees, heavy vehicle drivers, and residents (particularly the young and elderly) in the directly and indirectly affected communities. 2. Align the Community Health and Safety Plan with both the Community Engagement Plan and the Grievance, Complaints and Suggestions Mechanism (MQRS) 3. Align the Community Health and Safety Plan with all contractors, to ensure shared ownership and strict compliance to avoid conflict with neighboring communities related to road traffic nuisance and accidents.	2. Evidence of alignment between INGELSA's plans 3. Evidence of alignment between INGELSA and contractors' plans	Plan-specific ESAP dates Plan-specific ESAP dates
22	Community Exposure to Disease		1. Provide training for all workers on prevention of communicable diseases and gender awareness; 2. Provide training on expected behaviors as per the code of conduct for workers engaged by contractors, as well as awareness about workers' roles and responsibilities under the Community Health and Safety Plan and The Community Engagement Plan	1. Evidence of training undertaken 2. Evidence of training undertaken	Ongoing as part of contractor induction Ongoing as part of contractor induction
23	Security Personnel		Ensure appropriate management of armed security personnel. 1. Develop a Security Management Plan to ensure own/contractor security guards are vetted in terms of background checks, mandatory training and compliance with local firearm regulations to ensure adherence to best international practice. Include a protocol for communication and coordination with local police/security forces. 2. Align the Security Management Plan with the Community Health & Safety Plan	1. Security Management Plan elaborated 2. Evidence of Plan aligned	Before First Disbursement
Performance Standard 06: Biodiversity Conservation and Sustainable Management of Living Natural Resources					
24		Baseline Studies	1. Complete chytrid fungus analysis to detect the presence of *Batracochytrium dendrobatitis* (Bd) and incorporate results in amphibian baseline	1. Documented results of the chytrid analysis provided	Before First Disbursement
25		Forest Watershed	1. Prepare Social Investment Plan for SERNA 2. Review and update the Forest Watershed Management Plan to: i) create the synergies with the relevant activities foreseen under	1. Copy of Social Investment Plan	SERNA specific deadline Before First Disbursement

	Components of the Biodiversity Action Plan (BAP)	Management Plan	other community related plans (i.e. the Social Investment Plan for SERNA-Decree 212/2010); ii) reflect existing agreements (e.g. CALIJINUL, PROLANSATE) as well as community and social investments already made; and iii) establish an annual planning process for community investments that takes into account community priorities identified under the Community Engagement Plan, and discussions with the *Patronatos*. 3. Refine the Forest Watershed Management Plan for the commercial operations phase, by signing an agreement with the *Patronatos* at the beginning of each year to determine the projects to be implemented over the year.	2. Updated Forest Watershed Management Plan for Construction phase 3. Forest Watershed Management Plan for Operations phase (adapted from construction phase)	Three Months Before COD
26		RVS Texiguat Management Plan	1. Support implementation of RVS Texiguat's management plan: Establish partnership and multi-year working program with ICF, PROLANSATE (and others) to make necessary revisions of Plan's component programs, to include: i) adoption of conservation KPIs e.g. goal of No-Net-Loss (NNL) of biodiversity at landscape level); ii) target reforestation and restoration efforts to suitable amphibian habitat (e.g. riparian forests; encroached core zones *at La Liberacion*); iii) support establishment of a community park ranger program. 2. Increase protection of herpetofauna in the buffer areas of Texiguat: Develop partnership with CALIJINUL cooperative to scope out suitable habitat/occurrence of threatened herpetofauna in the ICF agroforestry concessions (some 1,315 hectares) for population level estimate studies and possible conservation offset and/or restoration efforts agreements.	1. Revised RVS Texiguat Management Plan 2. Partnership with CALIJINUL cooperative established	Before Project Completion Before Project Completion
27		Reforestation Plan	1. Revise Reforestation Plan to: i) Identify and protect extant population(s)/germplasm of *Haptanthus hazlettii*; ii) conduct vegetation classification and habitat mapping for the Project's area of direct influence (e.g. as a quality-habitat proxy for gain/loss metrics; and to target reforestation efforts); ii) include list of priority tree species for conservation; ii) establish a temporary seedbank/greenhouse breeding program for target species *H.*	1. Revised Reforestation Plan	Before First Disbursement

			hazlettii; iii) create a procedure for potentially invasive plant (or animal) species; and iv) design activities for relocation of relevant conservation status epiphyte species. 2. Formalize/operationalize provisions of the Plan for reforestation of intervened areas near/in RVS Texiguat's core zone with the stakeholders: UMA, SERNAM, ICF, *Patronatos*, and *Juntas de Agua*, etc. 3. Establish work program with CALIJINUL to improve agroforestry management practices and scope biodiversity conservation opportunities (e.g. herpetofauna) in concession areas	2. Evidence of formalized Agreements 3. Evidence of Workplan developed	Before Project Completion Before Project Completion
28		Herpetofauna Offset Management Plan	Design a Biodiversity Offset for Critical Habitats in the Project's Area of Influence. Offset will be designed to achieve net gains (NPI) for key biodiversity components. 1. Develop Herpetofauna Offset Management Plan based on the following principles: i) No-Net-Loss and 'Like-for-Like' (i.e. In-Kind); ii) Additionality; iii) Adherence to the mitigation hierarchy; iv) Establishment of limits to what can be offset (e.g. in-situ averted loss for *P. chrysopleura*)[31]; v) Landscape context and ecosystem approach for expected measurable conservation outcomes; vi) Stakeholder participation (cf. Reforestation and Forest Watershed Plans); vii) Equitable risk/benefit sharing; viii) Long term outcomes; ix) Transparency/access to Information; x) Best available science and local knowledge. 2. Provide regular progress report updates as part of ESCR[32] process. 3. Revise Herpetofauna Offset Management Plan for Operations Phase	1. Draft Herp Offset Management Plan, containing at minimum: - Key Components of Offset (species) - Estimates of residual impact area for each species - Proposed metrics for gain/loss - Scoping for suitable quality-habitats for offset areas - Monitoring & Evaluation - Options for offset long-term financing Final Herp Offset Management Plan 2. Ongoing construction & operations 3. Revised Offset Management Plan	Draft Before Closing Final Before First Disbursement Regular ESCR reports Before Project Completion
29	Biodiversity Action Plan (BAP)		1. Prepare the Project's overall biodiversity management framework, encompassing the updated biodiversity baseline (#2), as well as individual plans and activities in ESAP items #24 through #28. The BAP is the document that sets out the Project's commitment to	1. Biodiversity Action Plan – Construction Phase	Before First Disbursement

[31] Untested, ex-situ captive breeding propositions are not an acceptable NNL strategy for highly range-restricted, endemic threatened (e.g. CR or potentially CR-listed) amphibian species.

[32] Environnemental & Social Compliance Reports (ESCR)

		conserve the key biodiversity components in the Project's area of influence. 2. Adjust the BAP for the operations phase	2. Biodiversity Action Plan – Operations Phase	Three Months Before COD
30	Independent technical oversight & evaluation	1. Biodiversity consultant to provide independent monitoring and evaluation oversight for Biodiversity Action Plan components and activities (items #24 through #28). 2. Social & environmental consultant to provide independent monitoring and evaluation oversight for design and execution of remaining applicable ESAP plans and activities (items #1 through #23).	1. Executed consultant services agreement as part of loan contract 2. Executed consultant services agreement as part of loan contract	By Closing By Closing