



Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 17-Feb-2020 | Report No: PIDA26954

**BASIC INFORMATION****A. Basic Project Data**

Country Honduras	Project ID P169901	Project Name Water Security in the Dry Corridor of Honduras	Parent Project ID (if any)
Region LATIN AMERICA AND CARIBBEAN	Estimated Appraisal Date 07-Feb-2020	Estimated Board Date 27-May-2020	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Secretaria de Finanzas de Honduras (SEFIN)	Implementing Agency Honduran Strategic Investment Office (INVEST-H)	

Proposed Development Objective(s)

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

Components

Component 1: Strengthening institutional capacity for water resources governance and management

Component 2: Scaling up resilient hydraulic infrastructure for water security in the Dry Corridor

Component 3: Project management, monitoring and evaluation

Component 4: Contingency Emergency Response

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	85.00
Total Financing	85.00
of which IBRD/IDA	70.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	70.00
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IDA Credit	70.00
Non-World Bank Group Financing	
Counterpart Funding	15.00
Borrower/Recipient	15.00
Environmental and Social Risk Classification	
High	
Decision	
The review did authorize the team to appraise and negotiate	

B. Introduction and Context

Country Context

- High rates of poverty and inequality remain persistent development challenges in Honduras, driving a growing number of people to migrate to other countries.** Honduras continues to be one of the poorest countries in LAC, with roughly 62 percent of the country's 9.3 million inhabitants living below the poverty line in 2018. Furthermore, it is estimated 1 in 5 live in extreme poverty.¹ Inequality measured through the Gini index (53 in 2018) is among the highest in the region. Afro-descendants are over 2.5 times more likely to be chronically poor than other races, and 70 percent of indigenous peoples live in poverty. Female-headed households are also more vulnerable to poverty. Of the estimated 32 percent of households led by women, 64 percent live in poverty.² Poverty levels are particularly striking in rural areas, where 60 percent of women have no income compared to 20 percent of men.
- The rural poor overwhelmingly rely on subsistence agriculture for their livelihood, which hinges on water availability.** Agriculture remains the primary source of income and food security for rural communities, with an estimated 72 percent of agricultural families dedicated to subsistence farming on small plots of land. This type of farming is typically characterized by low revenue generation and high vulnerability to shocks. Chronic malnutrition is roughly twice as common among children in rural areas (28.8 percent) than in urban centers (14.6 percent), and rural households are far more likely to lack access to clean water.
- Water security is also a key driver of economic growth in Honduras.** The agricultural sector, which represents the primary consumptive use of water resources (approximately 73 percent of total freshwater withdrawal), grew by 10.7 percent in 2017, accounting for 12.9 percent of GDP (primary production only). This figure understates the importance of agriculture in the Honduran economy, however, as it does not reflect the linkages between primary agriculture and other sectors, both upstream and downstream. The agricultural sector produces more than US\$1,800 million in tradeable goods annually and generates an estimated 35.6 percent of the country's total primary exports. Water is also critical to energy production and plays a key role in development. In 2017, hydropower represented 26 percent of Honduras' total installed capacity (2,571 MW) and

¹ Instituto Nacional de Estadísticas (INE). 2017. *Encuesta Permanente de Hogares de Propósitos Múltiples*. June.

² <https://genderinagriculture.org/chapter-1/>



34 percent of total electricity generation (8,958 GWh)³ and accounted for 18 percent of total water withdrawal. Not surprisingly, the growing competition for scarce, and increasingly contaminated, water resources is a major driver of social conflicts among energy generators, consumers, and farmers.

4. Honduras is one of the most vulnerable countries in the world to increasingly frequent occurrences of drought and other extreme weather events and climate change. According to the 2019 Global Climate Risk Index (*Germanwatch*), Honduras was the second country most severely affected by climate change between 1997 and 2016, losing an average 1.8 percent of GDP per year due to climatic events. The combination of observed and anticipated climate change impacts and increased climatic variability are likely to exacerbate the country's exposure to hurricanes, floods, erosion, landslides, and droughts, as evidenced by the 2019 severe drought, which affected 170,300 small-scale farmers, led to agricultural production losses of 60 percent, put a toll on the energy sector, called for water rationing in Tegucigalpa, and forced the Government to declare state of emergency. Projected reductions in annual precipitation across the country—estimated at 20 percent by 2050 and 30–40 percent by 2090—combined with rising temperatures⁴ are expected to further reduce water availability. To address this issue, in 2010 the Government launched a National Climate Change Strategy, to prepare the country for the adverse impacts of climate change and to mitigate potential future impacts.

5. The Honduras's Dry Corridor, covering 20,000 km², is increasingly vulnerable to severe weather instability and climate shocks, which threaten the livelihoods of its inhabitants and prospects for economic development. This region is part of the Central America's Dry Corridor, known for its variable precipitation patterns and increasingly unstable weather regime. During El Niño years, precipitation in the Dry Corridor can drop by 30–40 percent, with rising temperatures and more frequent and longer extended rainless periods. Such dry periods are often followed by tropical storms that take a devastating toll on human life, food security, infrastructure, and national economies in their wake. The Dry Corridor of Honduras comprises five river basins: Sampile, Choluteca, Nacaome, Lempa and Goascorán.

6. The Nacaome River Basin holds significant potential for agro-industry, aquaculture, and hydropower, sectors considered key to economic development in this important region of the Dry Corridor and Honduras at large. With a population of about 278,000, distributed over 25 municipalities and 3,121 km², Nacaome is the most populated basin of the Dry Corridor. Although largely inhabited by subsistence farmers, Nacaome also houses export-oriented economies based on higher-value crops and industrial shrimp aquaculture. In 2013–2014, the latter generated US\$219.5 million in GDP and 35,000 jobs.⁵ The basin also hosts the *José Cecilio del Valle (JCV) Dam*, a large multipurpose infrastructure designed to supply water for human consumption, irrigation, and power generation.⁶ However, failure to install spillway gates limits the dam's storage capacity to about 25 million m³—less than 60 percent of its design level. At the current storage level, the dam generates two-thirds of the 35 GWh design capacity, and thus is unable to fully meet the consumptive, productive, and power generation needs for which it was built. Increasing the dam's storage capacity to its full potential is critical to the region's economic development.

7. More than half of Honduras' poor and two-thirds of its extreme poor live in rural areas of the Dry Corridor. The Dry Corridor is home to approximately 2.5 million people—primarily subsistence farmers growing basic grains, landless farmers, and day laborers. An estimated 25 percent of these households are led by women. Since 2009 this area has been hit by severe droughts that have led to water scarcity and resulting food shortages,

³ IRENA. 2017. *Honduras Energy Situation*.

⁴ Honduras: Strategy Program for Climate Resilience (2017). Ministry of Environment (*Mi Ambiente*).

⁵ Cargill Animal Nutrition Honduras data. Aquaculture. 2015.

⁶ The JCV dam was put in operation in 1998. At present, the dam is being operated by the Ministry of Environment granting a concession for hydropower production. Hydropower is the only service currently being provided by the dam.



requiring that the Government declares a state of emergency in most of these years.

Sectoral and Institutional Context

8. Despite a virtual abundance of water resources in the Dry Corridor, insufficient storage infrastructure prevents year-round access to water. Based on recent estimates, the combined available resources of the five basins total roughly 7.3 billion m³/year, significantly surpassing demand, estimated at 0.6 billion m³/year⁷ and putting the region well above water stress levels. Nonetheless, the region suffers of an uneven seasonal water distribution and lacks adequate storage infrastructure. The risk of unmet water demand is high during the February–April dry season, when available water resources fall short of demand. Future projections under 2030 climate change scenarios coupled with water demand estimates indicate that such water deficits will worsen as pressures on water resources intensify, posing risks to both the food security of households that rely on subsistence farming and future economic growth prospects.

9. Water variability challenges in the Dry Corridor are exacerbated by the deteriorating quality. Major river basins and lakes throughout the region are under strain from a growing population as well as agricultural and industrial activities. A significant portion of industrial discharges into water bodies is neither monitored nor regulated. Inadequate solid waste disposal and poor land management practices, including deforestation, compound the challenges. Roughly 90 percent of surface water sources are contaminated with fecal matter.

10. Water quality and availability are increasingly at risk due to inadequate water resources management (WRM). Honduras lacks a national water resources master plan and river regulation is very limited, resulting in unprotected watersheds, high deforestation rates, and contamination of water sources. The National Water Law approved in 2009 has yet to be put into effect through the creation and enactment of regulations. Although legislation governing the protection of watersheds has been approved, the widespread lack of compliance with that legislation represents an additional weakness in the institutional framework. The Government has recently committed to the establishment of a National Water Authority (*Autoridad Nacional del Agua – ADA*) for the overall management of water resources, including setting of coordination mechanisms and issuing of water rights.

11. The lack of adequate water information and basin management tools hamper effective WRM to respond to the growing water demands and climate risks. The scarcity and dispersion of water resources data and information and limited capacity to generate water information products undermine the prospects for effective planning and investment decisions. Existing river basin planning tools face challenges in terms of water user participation, intersectoral coordination, environmental and climate change considerations, and harmonized approaches. There is a pressing need to improve the quality and availability of information and develop relevant information products for decision makers, operators of hydraulic infrastructure and the public at large. Similarly, groundwater information, monitoring, and management are limited, resulting in a proliferation of illegal wells and lack of control over water abstractions, increasing the risk of overexploitation.

12. Insufficient hydraulic infrastructure exacerbates the impacts of water variability and risks to groundwater resources. Storage facilities could mitigate the effects of seasonality; however, few have been built. The shortage of hydraulic infrastructure to store and regulate water volumes has led to intensive groundwater use, particularly in the lower parts of the Choluteca and Nacaome basins. These aquifers represent important water supply sources for the productive regions of the Pacific. Significant and worrisome drawdowns in the aquifers, as well as saline intrusion, have been identified.

13. There is lack of legal and regulatory framework for dam safety. For instance, the JCV dam, operated by the

⁷ COSUDE (2016). *Estudios Específicos del Programa de Gobernanza Hídrica de la Región Golfo de Fonseca*. Tegucigalpa, Honduras.



Ministry of Environment, is aging and there is no technical office responsible for normal and regular dam safety activities but also regular dam safety reviews. Technical guidelines and procedures to evaluate dam safety risks are nonexistent and most of the surveying and monitoring equipment is obsolete. The establishment of a legal and regulatory framework for dam safety management is crucial to address these gaps.

14. Although Honduras has made significant progress in closing the water supply coverage gap over the last decades, significant inequities in access to these services persist and service quality is generally low. As of 2015, 20 percent of the country's poor compared to only 7 percent of the country's nonpoor lacked access to water. Furthermore, the 2016 Country Monitoring WSS Report (*Monitoreo de los Avances del País en Agua Potable y Saneamiento*, MAPAS) estimated that only 38 percent of the water delivered in urban areas is potable. Most cities cannot rely on continuous service and severe water restriction programs are imposed during most summers. For example, in the Dry Corridor city of La Paz (24,617 inhabitants), water is only provided 1.4 hours a day, in some cases only every 30 days during the summer season. To address these issues, in 2014, the Government of Honduras (GoH) put in place an "Alliance for the Dry Corridor," in collaboration with development partners. This initiative aims to improve and coordinate initiatives within Honduras' Dry Corridor, bearing in mind the area's sustainable economic and human development

15. The country remains committed to building climate-resilient infrastructure and restoring its watershed. The proposed Project will support implementation of a first set of interventions in key priority areas laid out in the strategy, aimed at: (i) reducing the risk to climate change vulnerabilities, mainly droughts and floods; (ii) strengthening the institutional framework and governance around water resources by promoting user participation, among others; (iii) increasing water availability by addressing deficiencies in water infrastructure; and (iv) developing tools for water financing. The Project is expected to contribute to leveraging additional financing sources to continue implementing the strategy. To this end, roundtable discussions were held with various potential development partners and the private sector.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

16. The Project Development Objective is to improve water service delivery and strengthen water governance in select areas of the Dry Corridor of Honduras.

Key Results

17. Achievement of the PDO will be measured through the following indicators:

- (i) Beneficiaries with new/improved access to reliable water services (number)
 - For improved water supply
 - For new/improved irrigation
- (ii) Improved local organizations with enhanced capacity for using WRM principles for better monitoring /decision-making (number)



D. Project Description

18. **The overall cost of the proposed Project is US\$85 million, financed by an IDA credit of US\$70 million and US\$15 million in counterpart funding from the central government, to be implemented over a 6-year period (2021–27).**
19. **Component 1: Strengthening institutional capacity for water resources governance and management.** The objectives of this component are (i) to strengthen the hydrometeorological network, water resources information systems (WRISs), and capacity development; and (ii) to develop basic instruments and tools necessary for transparent WRM and better water governance. Better governance and management of water resources will increase the availability of good-quality water and thus make the targeted Dry Corridor areas more resilient to extreme weather events, particularly droughts.
20. **Sub-component 1.1: Strengthening water resources information.** This sub-component will seek to strengthen WRM, and ultimately build resilience, by embedding the use of evidence in planning and decision-making based on water resources monitoring, hydrological models, and forecasts of key climate variables, and strengthening the technical capacity of key institutions involved in WRM.
21. **Sub-component 1.2: Water governance and capacity building.** This sub-component will contribute to institutional strengthening and coordination. Activities will follow a bottom-up approach, building on various actors' local experiences at the micro-watershed level to scale up at sub-basin, basin and national levels.
22. **Component 2: Scaling up resilient hydraulic infrastructure for water security in the Dry Corridor.** This component will aim at implementing prioritized infrastructure interventions for resilient water management. These investments will not only make the targeted areas more resilient to droughts—by supporting water harvesting reservoirs and integrated watershed management, as explained in the next paragraph—but also to floods. Not only the flood risk itself will be reduced, but also the potential impact of a flood (as the provision of sanitation units will reduce water pollution).
23. **Sub-component 2.1: Promoting an integrated and multipurpose micro-watershed management approach in the Dry Corridor.** This sub-component will finance consulting services, goods, and works necessary to scale up small water reservoirs (SIAS, Spanish acronym) in targeted basins in the Dry Corridor.
24. **Sub-component 2.2: Maximizing the benefits of the multipurpose dams in targeted basins.** This sub-component will support infrastructure modernization in the Nacaome Basin—the JCV Dam together with the water supply system downstream. The sub-component will also finance the implementation of associated environmental and social mitigation and management plans as recommended by the ESIA study.
25. **Component 3: Project management, monitoring and evaluation.** This component will support Project (i) coordination and management through a Project Management Unit (PMU); (ii) monitoring, results evaluation, and impact assessment of activities; (iii) fiduciary administration, internal controls, and audits; (iv) environmental and social risk management; (v) stakeholder outreach for awareness on the project and citizen engagement mechanism and grievance management system; (vi) other related strategic studies to contribute towards for future project preparation; and (vii) training support for PMU staff.
26. **Component 4: Contingent Emergency Response (CERC).** Reflecting the strategic approach taken in Honduras across the Bank's portfolio, this component will provide immediate response to eligible emergencies, as defined in the CERC operations manual. As such, if an eligible emergency arises, this component would finance emergency activities and expenditures through the reallocation of project funds.



Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50

Yes

Projects in Disputed Areas OP 7.60

No

Summary of Assessment of Environmental and Social Risks and Impacts

27. The project's environmental and social risks are considered high. Key social risks include: (i) the potential to exacerbate existing social tensions and conflicts around access to and use of water resources. Contextual risk factors include decades of conflict and violence over access to water, at the community and municipal levels, and general distrust among water insecure rural and indigenous populations towards water sector and natural resource management projects; (ii) potential adverse impacts on indigenous peoples or other vulnerable groups, and their exclusion from project benefits and activities, particularly those aimed at creation and strengthening of water resource management entities at the local, regional and national level; (iii) impacts resulting from the permanent and temporary acquisition of land and restrictions on land use, as a result of civil works. With respect to environmental risks, the scale of civil works will generate diverse and at times significant impacts, including among others: (i) flooding of approximately 40 ha of secondary forest land in connection with raising the reservoir level of the JCV dam, and of smaller areas – ranging from about 1.7 ha to 4.2 ha – for construction of small water harvesting reservoirs (SIAS); (ii) potential dam safety risks associated with both the JCV dam as well as the SIAS water harvesting structures; (iii) the potential for some effects (potentially positive and/or negative) to fish populations and associated livelihoods resulting from future changes to downstream flows from JCV dam; (iv) potential indirect impacts to land use downstream of the dam due to additional water available for irrigation; (v) diverse localized construction stage impacts related to both JCV dam works as well as SIAS subprojects; (vi) community health and safety risks related to labor influx to rural communities (some of which are indigenous); and (vii) diverse occupational health and safety risks as well as traffic safety risks to both workers and communities at all construction sites.
28. To address these risks and impacts, the project has developed several E&S management instruments during the preparation phase: 1) an Environmental and Social Impact Assessment (ESIA) including preliminary Environmental and Social Management Plans (ESMPs) for the first 4 SIAS; 2) a preliminary ESIA at the pre-feasibility level for JCV dam improvements and associated investments; 3) an Environmental and Social Management Framework (ESMF); 4) an Indigenous Peoples Planning Framework (IPPF); 5) a Resettlement Policy Framework (RPF); 6) Labor Management Procedures (LMP); 7) Stakeholder Engagement Plan (SEP) including Grievance Redress Mechanism; and, 8) an Environmental and Social Commitment Plan, which together lay out the various requirements and commitments for future E&S assessment, planning, engagement and implementation management aspects for all project activities in accordance with the ESF. The ESIA and ESMPs for the SIAS will be finalized in the initial stage of implementation, as detailed designs and bidding documents are being finalized, along with Indigenous Peoples Plans (IPPs), and Resettlement Action Plans (RAPs) as needed. For JCV dam related investments, a full, comprehensive ESIA will likewise be carried out, as well as a RAP, during implementation in parallel to full feasibility and design studies. All assessments will be required to be completed prior to bidding of works, to ensure that all required mitigation and management measures falling to contractors are appropriately included in bid and contract



documents. Compensation programs for both the loss of forest cover and livelihood impacts where applicable, well as micro-watershed level management and restoration programs, will also be funded under the project.

29. INVEST-H's project implementing team will include full time environmental, health and safety (EHS) and social specialists, as well as labor, resettlement and gender specialists, who will oversee the quality of the E&S supervision by the firms, periodically visit all works sites as well as handle grievance management systems and reporting to the Bank and relevant national authorities. For all works activities, multidisciplinary supervision teams will support Invest-H to carry out everyday supervision of E&S compliance. For more information on E&S risks and management strategies, please refer to the Environmental and Social Review Summary (ESRS) for the Project.

E. Implementation

Institutional and Implementation Arrangements

30. The Recipient will be the Republic of Honduras, through the Ministry of Finance (SEFIN). The Project will be implemented under the overall coordination of the Honduras Strategic Investment Office (INVEST-H). INVEST-H is a government agency that supports implementation of strategic projects for the country's socioeconomic development. Invest-H will host the PMU, which will coordinate with the Secretariat of Natural Resources and Environment, the SAG, and other government institutions. The PMU will oversee all technical, administrative, and fiduciary aspects. It will ensure compliance with WB's environmental and social policies and be responsible for M&E.

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