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HONDURAS

PROGRAM TO INCREASE FLOOD RESILIENCE IN THE SULA VALLEY IN HONDURAS

(HO-L1244)

LOAN PROPOSAL

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ABBREVIATIONS	
CEVS	Comisión Ejecutiva del Valle de Sula (Sula Valley Executive Commission)
CIVS	Comisión para el Control de Inundaciones del Valle de Sula (Sula Valley Flood Control Commission)
ECLAC	Economic Commission for Latin America and the Caribbean
EEA	European Environment Agency
ENEE	Empresa Nacional de Energía Eléctrica (National Electric Power Company)
FHIS	Fondo Hondureño de Inversión Social (Honduran Social Investment Fund)
INE	National Institute of Statistics
ITEC	Indian Technical and Economic Cooperation Programme
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Transexual, Queer, and other gender identities and sexual orientations
PEC	Proyectos Ejecutados por la Comunidad (community-executed projects)
SEDECOAS	Secretariat of Community Development, Water, and Sanitation
SEGOB	Secretariat of the Interior, Justice, and Decentralization
SESAL	Secretariat of Health
SIT	Secretariat of Infrastructure and Transportation
TSC	Tribunal Superior de Cuentas (Supreme Audit Court)
UNDRR	United Nations Office for Disaster Risk Reduction
WMO	World Meteorological Organization

PROJECT SUMMARY

HONDURAS
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Financial Terms and Conditions			
Borrower:	**Source**	**Amount (US$)**	**%**
Republic of Honduras	IDB (Regular Ordinary Capital):	13,000,000	65
Executing agency:	IDB (Concessional Ordinary Capital):	7,000,000	35
Secretariat of Infrastructure and Transportation (SIT) and Secretariat of Community Development, Water, and Sanitation (SEDECOAS).	Total:	20,000,000	100

Financial terms and conditions:	**Regular Ordinary Capital (Flexible Financing Facility)[a]**	**Concessional Ordinary Capital**
Amortization period:	25 years	40 years
Disbursement period:	4 years	4 years
Grace period:	5.5 years [b]	40 years
Interest rate:	SOFR-based	0.25%
Credit fee:	[c]	N/A
Inspection and supervision fee:	[c]	N/A
Weighted average life:	15.25	N/A
Approval currency:	U.S. dollars	

Project at a Glance

Project objective/description: The general development objective is to increase the flood resilience of vulnerable families in the Sula Valley in Honduras. The specific development objectives are to: (i) reduce the risk of vulnerable families through flood control works, considering climate change scenarios; (ii) strengthen the flood risk reduction planning capacities of the public institutions responsible for risk management; (iii) create a metropolitan or regional governance space for risk management and climate adaptation in the Sula Valley, with the participation of the multilevel public sector, civil society organizations, academia, and the private sector; and (iv) strengthen vulnerable communities' flood resilience capacities, with a focus on gender, disability, and prioritizing Afro-descendant communities.

Special contractual conditions precedent to the first disbursement of the loan: (a) for Components I, II, and III: (i) a general coordinator, environmental specialist, procurement specialist, and financial specialist have been designated for the program, and a social specialist has been selected or designated; and (ii) the Operations Manual has been approved for these components; (b) for Component III: an agreement has been signed with the Secretariat of the Interior, Justice, and Decentralization (SEGOB) for the execution of these activities; and (c) for Component IV: (i) an execution unit has been formed including the selection or designation of a coordinator, financial analyst, and administrative assistant for the program; (ii) the Operations Manual has been approved for this component; and (iii) for the Component IV community works to improve resiliency subcomponent: the community-executed projects manual has been approved (paragraph 3.6).

Special contractual conditions for execution: See environmental and social review summary Annex B and fiduciary annex.

Exceptions to Bank policies: None.

Strategic Alignment							
Objectives:[d]	O1 ☒			O2 ☒		O3 ☐	
Operational focus areas:[e]	OF1 ☒	OF2-G ☒ OF2-D ☒	OF3 ☒	OF4 ☐	OF5 ☐	OF6 ☐	OF7 ☐

[a] Under the terms of the Flexible Financing Facility (FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. The Bank will take market conditions, operational and risk management considerations, as well as the level of loan concessionality into account when reviewing such requests, in accordance with current applicable Bank policies.

[b] Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan, or the last payment date as documented in the loan contract.

[c] The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

[d] O1 (Reduce poverty and inequality); O2 (Address climate change); and O3 (Bolster sustainable regional growth).

[e] OF1 (Biodiversity, natural capital, and climate action); OF2-G (Gender equality); OF2-D (Inclusion of diverse population groups); OF3 (Institutional capacity, rule of law, and citizen security); OF4 (Social protection and human capital development); OF5 (Productive development and innovation through the private sector); OF6 (Sustainable, resilient, and inclusive infrastructure); OF7 (Regional integration).

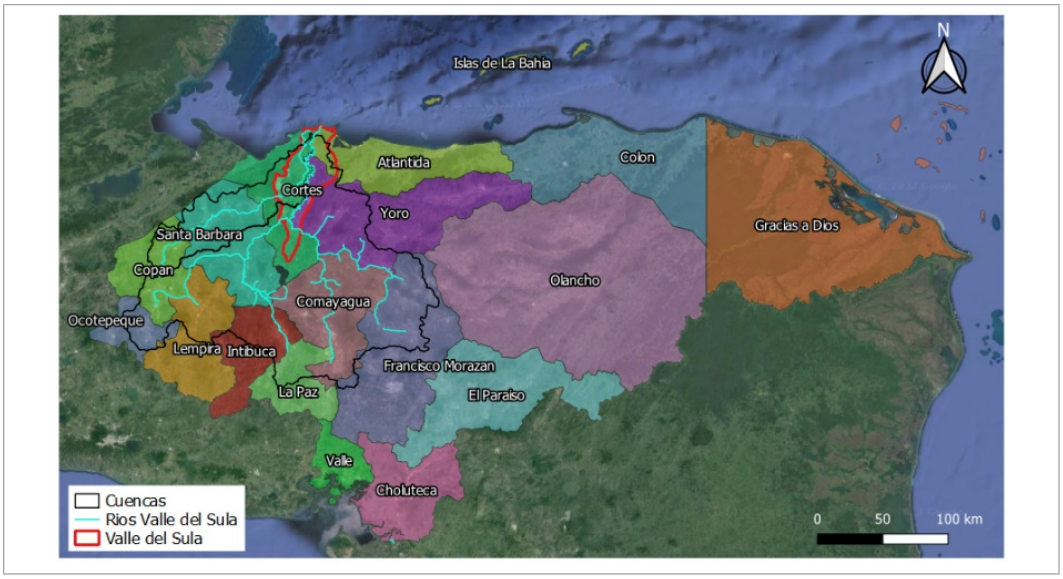
I. Description and Results Monitoring

A. Background, problem addressed, and rationale

1.1 **Background and problem addressed.** Honduras is one of the countries most exposed to climate events in the world.[1] Moreover, in Latin America and the Caribbean, it is the country with the least economic capacity to respond to a potential catastrophic event.[2] Disasters exacerbate the country's poverty. For example, in 1998 Hurricane Mitch inflicted losses equivalent to 80% of gross domestic product (GDP) (ECLAC, 1999)[3] and led to an 8% increase in the population living in poverty (Sanchez and Suarez, 2012).

1.2 The country frequently bears the impact of floods (34% of all disasters at the national level[4]), which are concentrated in specific zones in Honduras, especially in the Sula Valley.[5] This valley, covering 2,500 km^2, is located in the lower part of the El Chamelecón and Ulúa rivers (Figure 1) and is divided among three departments (Cortés, Yoro, and Atlántida) and 12 municipios (Choloma, El Negrito, El Progreso, La Lima, Pimienta, Potrerillos, San Manuel, San Pedro Sula, Santa Rita, Puerto Cortés, Tela, and Villanueva).

Figure 1. Location of the Sula Valley and the Ulúa and Chamelecón river watersheds



Source: iPresas, 2024.

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1 Honduras was the second-most affected country by climate disasters from 1997 to 2017. Eckstein, D., M. L. Hutfils, and M. Winges. (2018).

2 Measured by the Disaster Deficit Index.

3 See the complete list of bibliographic references.

4 Authors' calculation based on the analysis of Desinventar data for Honduras (1915-2015).

5 In all, 27% of flood events are concentrated in the Sula Valley, followed by Tegucigalpa, with 14% (Desinventar).

1.3 The Ulúa and Chamelecón river watersheds cover 21,725 km^2 and 435 km^2, respectively. Together, they represent 23.5% of the country's total area. Forests and agroforestry systems account for 63% of the Ulúa watershed and 45% of the Chamelecón watershed. The loss of forest cover in a sample of Ulúa subwatersheds was estimated at 4%[6] in 2000-2018. The Francisco Morazán Hydroelectric Power Plant is located in the Ulúa watershed, upstream from the Sula Valley. This power plant, commonly known as El Cajón, makes the most significant contribution to the country's electrical system (16.4%).

1.4 The Sula Valley is the country's main economic development center, characterized by diverse productive activities such as agriculture, industry, commerce, and services. The average poverty rate in Sula Valley municipios is 37%, with values ranging from 68% in the Santa Rita municipio to 27% in the Pimienta municipio (Robayo et al., 2023).

1.5 This area was the hardest hit by Tropical Storms Eta and Iota in 2020 (Bello et al., 2021) and Tropical Storm Julia in 2022 (Bello et al., 2023). Storm-related flooding indirectly affects all inhabitants of the municipios located in the Sula Valley (around 2 million people[7]) through interruptions to basic services and negative impacts on economic activities, and it directly affects 53,000 households,[8] representing 160,000 people, in the flood zone (Figure 2) (iPresas, 2024).[9] Floods from Eta and Iota caused economic losses in the Sula Valley, in the trade and industry sector alone, equivalent to 2.24% of the country's GDP in 2020. They also left more than 455,000 people without access to water and caused housing damage and losses equivalent to approximately six minimum wages per affected family.[10] The Ramón Villeda Morales International Airport in San Pedro Sula, one of the country's two international airports, was severely affected by these floods. Forecasts indicate that the frequency and severity of floods will increase due to climate change (Miambiente, 2019), and daily precipitation could increase by approximately 15% by 2050 and 40% by 2100 (iPresas, 2024).

1.6 Floods affect crops, and approximately 200,000 hectares are exposed to flooding. These include African palm crops (38% of which is exposed to flooding), livestock (30%), forests (14%), sugar cane (12%), banana (1%), and other crops (5%). In addition to crop damage, flooding also leads to lost employment for agricultural workers, which directly affects the vulnerable population (Bello et al., 2023). According to estimates, 46% of the 53,000 households that are repeatedly affected by flooding live in conditions of poverty (iPresas, 2024). This shows that the proportion of people living in poverty in flood zones is greater than that of the Sula Valley as a whole (paragraph 1.4).

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6 Estimates based on Duarte (2023).

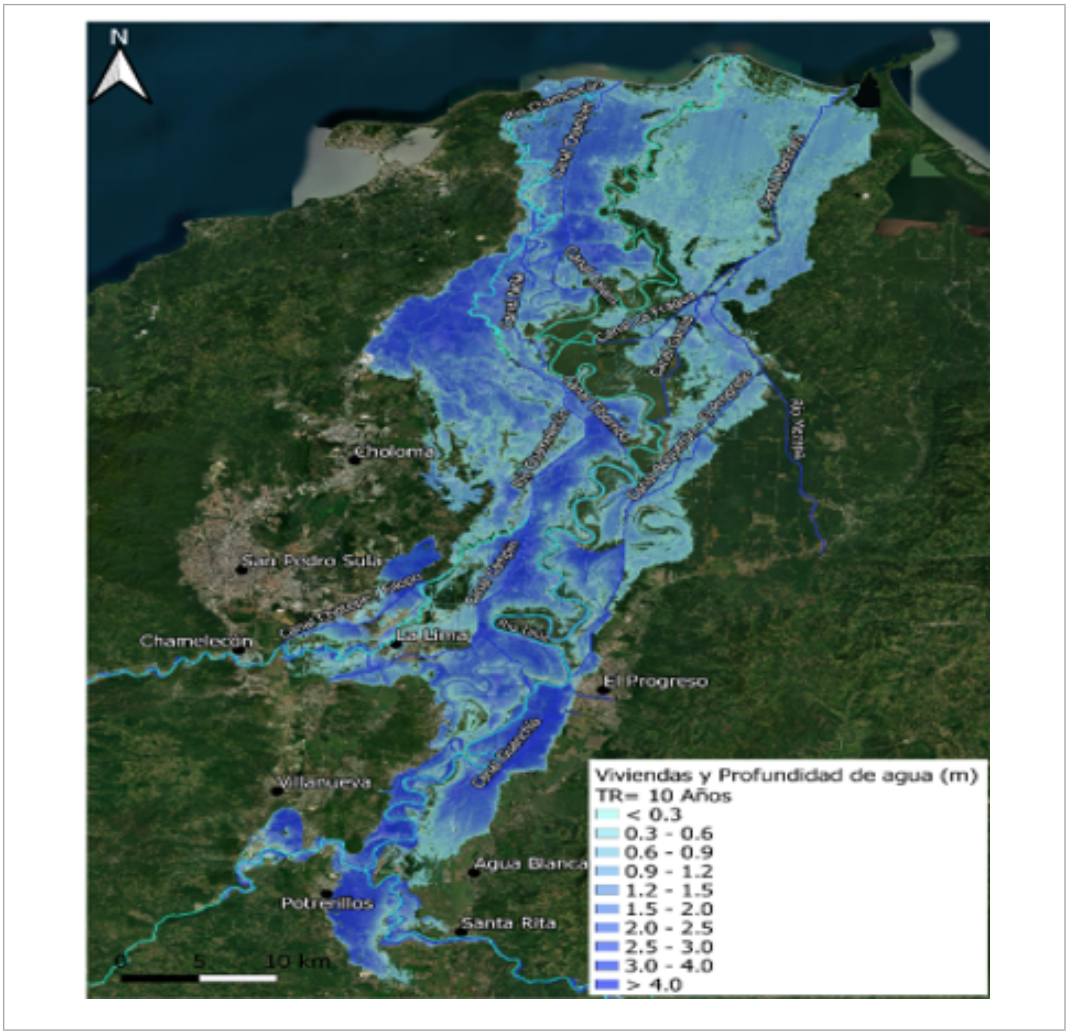
7 National Institute of Statistics (INE) projections for 2024.

8 A total of 95% of households affected by flooding are located in 6 of the 12 Sula Valley municipios: La Lima (25%), San Pedro Sula (23%), Choloma (14%), El Progreso (12%), Puerto Cortés (12%), and San Manuel (9%).

9 Using INE's total population projections per municipio and considering the number of households (iPresas, 2024), a ratio of 3 people was estimated per household for the area of analysis.

10 Estimates based on results from Bello et al. (2021).

Figure 2. Flood zones and main urban centers in the Sula Valley



Source: iPresas, 2024.

1.7 **Gender and diversity considerations.** Women, persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons are more impacted by floods and have less capacity to recover from them due to their vulnerability prior to the disaster (Cecchini et al., 2021; Erman et al., 2021). These conditions are related to social inequalities and poverty. The lack of resilience in their livelihoods, as well as limited access to information and resources, increases their vulnerability and risk of suffering physical and emotional harm during these natural events. In Honduras, there is little to no information on these impacts and the disaster risk reduction capacities of these population groups, as information is not disaggregated by gender, ethnicity, race, disability, sexual orientation, and gender identity. More information is available on prior vulnerabilities, which helps define the gaps that are exacerbated by disasters. In terms of gender, 40% of women participate in the workforce, compared to 74.6% of men (National Institute of Statistics (INE), 2023). This explains why 43.5% of women over 15 do not have their own income, in comparison with 16.5% of men (ECLAC, 2023). Furthermore, 23.2% of women over 15 and 20.9% of women with a disability have experienced at least one incident of violence in the last 12 months (INE, 2022). This situation

may be exacerbated during emergencies, partly due to inadequate conditions in shelters (Erman et al., 2021). The evidence indicates that violence against these women can persist even years after disasters (Weitzman and Behrman, 2016).

1.8 Regarding diverse groups, approximately 9.3% of women and 5.6% of men ages 18 to 49, and 13.8% of children ages 2 to 17, have some type of disability (INE and the Secretariat of Health (SESAL), 2021). The workforce participation rate of persons with disabilities is 32%, far below the national average (55.9%) (INE, 2023). The 2023 Global Survey of Persons with Disabilities and Disasters indicates that, in Latin America and the Caribbean, the most critical priority actions for including people with disabilities in disaster risk reduction are: address underlying factors, such as poverty and inequity; ensure accessible and resilient infrastructure; and improve the preparedness and resilience of people with disabilities through awareness-raising, education, and opportunities for capacity development.

1.9 The program's area of intervention also includes Indigenous peoples and Afro-Hondurans, mainly Garifuna who are considered both Afro-descendant and Indigenous (Agudelo, 2012). They are especially exposed to floods because of their location in the periphery of the city of San Pedro Sula. According to the 2013 population census, Afro-descendants represented 1.4% of the total Honduran population, and 16% of those residing in urban areas live in poor neighborhoods (World Bank, 2018). In a study in Garifuna communities, 95% of those surveyed reported that climate change had affected fishing, one of this people's two main economic activities.

1.10 According to the preliminary data from a 2023-2024 digital IDB poll, 57% of LGBTQ+ persons surveyed had experienced some type of violent act, in comparison with only 24% of non-LGBTQ+ persons. Moreover, in terms of employment, the survey revealed that 35.7% of LGBTQ+ people were unemployed and, therefore, did not have incomes, in contrast with 24.9% of non-LGBTQ+ people.

1.11 **Main causes of the flooding problem in the Sula Valley.** The Sula Valley zone is especially vulnerable to floods due to the following:

a. **Limited investment in strategic flood control works.** The Sula Valley flood control system consists of roughly 900 kilometers of embankments (earthen levees) and 190 kilometers of canals that were built by the Tela Railroad Company in the 1960s (iPresas, 2024). The Sula Valley Executive Commission (CEVS) was created in 1990 as an autonomous public entity responsible for the system's maintenance and operation. The CEVS had an investment plan based on a prospective analysis of floods, and it executed strategic works such as the Maya Canal. The studies conducted for this program's design have highlighted the state of deterioration and sedimentation of these canals (iPresas, 2024). The analysis of spending by the institutions responsible for flood control in the Sula Valley indicate that average annual expenditures on maintenance and repair have been around US$4 million and that, after weather events such as Tropical Storm Julia, spending on repairs totaled approximately US$12.5 million (iPresas, 2024). Empirical evidence shows that this pattern of spending on repairs when disasters occur is much less efficient than proactive

investments in risk reduction, with four dollars in losses averted by every dollar invested ex ante in risk reduction.

b. **Limited technical capacity for flood risk management.** In 2010, the Sula Valley Flood Control Commission (CIVS) replaced the CEVS. This change had significant implications because the CIVS did not have a hydrology and hydraulic information system for the valley or specialized staff in risk modeling. It adopted a reactive approach, focused mainly on repairing damaged embankments. In 2022, the CIVS's responsibilities were transferred to the Northwestern Regional Directorate under the Secretariat of Infrastructure and Transportation (SIT). The Center for the Study and Development of the Sula Valley was also established under SIT, and the role of this incipient unit is to develop a strategic flood control plan.

c. **Lack of adequate land-use planning and governance structure for the watershed's territorial management.** In Honduras, the Secretariat of the Interior, Justice, and Decentralization (SEGOB) is responsible for development planning and land-use planning. Conceptually, territorial governance has three levels: (i) a vertical level of multilevel relationships between the different political-administrative strata; (ii) a horizontal level of coordination among sectoral policies, territories, and actors; and (iii) the individual or collective citizen participation level (Francisco et al., 2018). In the Sula Valley, although all municipalities have development and management plans, there is no land-use planning at the lower watershed level, no vertical coordination mechanisms for decision-making between the local and central levels, no horizontal coordination at the territorial level between development sectors and actors, and no citizen participation structure (including individuals and organizations) for territorial governance. These are all fundamental elements for advancing a territorial development model that will help to prevent the risk of flooding (Component III).

d. **Lack of focus on gender, disability, and diversity in response preparedness.** The objectives of response preparedness are to plan, organize, and test a society's disaster response procedures and protocols (IDB, 2015). A key part of response preparedness are early warning systems that include: (i) disaster risk monitoring, forecasting, and assessment processes; (ii) warning communication; and (iii) preparedness activities that allow people, communities, governments, businesses, and other actors to take timely measures to reduce the impact of disasters before they occur (United Nations Office for Disaster Risk Reduction (UNDRR), 2024). The diagnostic assessments conducted show there is limited inclusion of gender and disability considerations in response preparedness in the Sula Valley, such as in the establishment and training of emergency committees, warning systems, and in existing shelters. The mandate of the Secretariat of Community Development, Water, and Sanitation (SEDECOAS) is to carry out community development projects at the neighborhood level to help increase the resilience of the most vulnerable populations. However, in the Sula Valley, its interventions have focused mainly on supporting the rehabilitation of basic services after recent disasters.

e. **Soil use in the upper watershed.** The type of soil use in the upper watershed influences rainfall infiltration and storage capacity, and forests and agroforestry contribute to reducing the size of flood peaks (Clark, 1987 Bradshaw et al., 2007; EEA, 2015; Bhattacharjee and Behera, 2018). Therefore, the recent loss of forest cover in the upper Ulúa watershed (paragraph 1.3) has likely contributed to the increased intensity and frequency of floods.

1.12 **Other interventions.** The Government of Honduras, through the National Electric Power Company (ENEE), is currently conducting studies for the construction of the El Tablón dam, which will help to reduce flooding from the Chamelecón River. Furthermore, the Japan International Cooperation Agency has approved a cooperation project to develop the Flood Control Master Plan for the Sula Valley Metropolitan Area. Paragraph 2.8 outlines this operation's coordination with these actions.

1.13 **Rationale.** The Sula Valley covers an extensive area and has a complex flooding problem. This operation focuses on addressing the most urgent flooding problems, prioritizing the reduction of risks from high-frequency events. In this sense, the program takes a comprehensive approach with complementary actions such as investments in flood control, capacity-building, early warning systems, land-use planning, and governance strengthening. The works benefit specific zones, as do the response preparedness activities at the neighborhood level, while the warning systems, institutional strengthening, and governance could potentially benefit the entire population living in flood zones. The selection of flood control investments was based on the following criteria, in addition to the investments' efficiency: (i) they benefit the greatest proportion of the vulnerable population that is frequently affected by floods, and they protect critical infrastructure; (ii) they generate short-term benefits for vulnerable populations; (iii) they not contribute to maladaptation;[11] and (iv) they are low-maintenance (see optional link 3). Based on these criteria, the prioritized intervention area consists of the El Progreso, La Lima, San Manuel, and San Pedro Sula municipios (optional link 3). In addition, several alternatives were compared, including the rehabilitation of embankments and canals, the reforestation of watersheds, and resettlements (optional link 3). Regarding the reforestation of the upper watershed, the analyses show that very significant areas (around 15% of the total watershed area) would need to be reforested in order to achieve benefits similar to those obtained from flood control works. Therefore, this measure is not very cost-effective. As a result of these analyses, a group of investments was selected including the rehabilitation of the Maya, Campín, and Marimba canals, the widening of a section of the Chasnigua ravine, and a small dredging work in the Chamelecón River where it passes through La Lima (iPresas, 2024). The objective of these works' design is to extract water from the main rivers before they reach the most populated areas of the Sula Valley, thereby reducing the risk of the Ulúa and Chamelecón rivers overflowing near the zones with the highest population density. The design is also based on a hybrid model that combines works with nature-based solutions by redirecting water

[11] Maladaptation refers to climate adaptation measures that increase current or future climate vulnerabilities within the limits of an operation, transfer vulnerabilities within the limits of an operation to an external or surrounding system (causing adverse social, environmental, economic, or physical effects on the system), or undermine sustainable development. Maladaptation takes place when an adaptation action undermines the response capacity of existing systems, decreases the capacity of future generations to respond to climate vulnerabilities, or imposes a disproportionate climate action burden onto current or future external actors.

to another area in the watershed where it will not impact housing (Opperman and Galloway, 2022). The early warning systems will address the residual risk that is not reduced by the works. The institutional strengthening component will focus on monitoring, forecasting, risk assessment, and communicating the early warning system's alert. The preparedness activities will be developed under the neighborhood-level intervention component, which includes a targeted intervention that aims to improve resilience conditions. The intervention neighborhoods are located in the selected municipios, and they are prioritized because of their marked exposure to flooding and the presence of vulnerable groups, Indigenous peoples, and Afro-Hondurans (Component IV). These include the Alfonzo Lacayo and 6 de mayo neighborhoods in the municipio of San Pedro Sula; the Ciudad Planeta, Álvarez Martínez, and La Paz neighborhoods in the municipio of La Lima; and the Pineda neighborhood in the municipio of San Manuel. This intervention will adopt the resilient neighborhood methodology developed in Honduras by the international nongovernmental organization GOAL. This methodology incorporates gender, diversity, and disability considerations in response preparedness actions (Component IV). The institutional strengthening component will lay the groundwork for flood control planning based on probabilistic risk assessment methodologies, while territorial management will strengthen sustainable land-use planning and multilevel and multiactor governance.

1.14 **Evidence.** This program will contribute to reversing the trend favoring reactive investments in repairing flood control works by financing risk reduction actions based on a cost-benefit analysis of the interventions. Mechler et al. (2014) conducted a literature review of cost-benefit studies of flood risk reduction measures and found that their average cost-benefit ratio is greater than 5. Kron and Müller (2019) used historical data to analyze the cost-benefit ratio of flood protection works in the city of Hamburg and obtained a ratio of 10. Opperman and Galloway (2022) underscore the benefits of hybrid solutions, analogous to those proposed for the Sula Valley, that combine bypass channels with the maximization of floodplain areas as natural buffer zones. The Indian Technical and Economic Cooperation Programme (ITEC) (2018) analyzed flood control measures in Bolivia and found that they are economically viable, with internal rates of return greater than 12% and benefit-cost ratios greater than 1. Regarding early warning systems' benefits for protecting people, according to the UNDRR/World Meteorological Organization (WMO) report (2023), countries with adequate multi-hazard early warning system coverage decreased their disaster-related mortality ratio by a factor of 8 in comparison with countries lacking these systems. In terms of their economic benefits, the Global Comision on Adaptation (2019) highlights that cost-benefit ratios of early warning systems are greater than 10. Bautista-Perdomo (2020) found that creating territorial governance spaces contributed to improved economic productivity, social equity, and citizen participation processes in the municipio of Santa Rosa de Copán in Honduras, while Fontana and Barberis-Rami (2017) in Córdoba, Argentina found that the consolidation of territorial governance contributes to more effective risk management.

1.15 **The Bank's experience.** Since 2007, when the Disaster Risk Management Policy (GN-2354-5) was approved, the Bank has supported the country's emergency response and disaster risk reduction actions. Interventions focusing on emergency response include: (i) 10 emergency technical-cooperation operations approved

between 2008 and 2022;[12] (ii) contingent loans aiming to help reduce the impact of severe events on public finances, including the Contingent Loan for Natural Disaster Emergencies (HO-X1016) (approved in 2011 and in effect until 2017) and the Contingent Loan for Natural Disaster and Public Health Emergencies (HO-O0008) (approved in 2021 and still in effect) for up to US$400 million; and (iii) the emergency loan, under the Immediate Response Facility, Tropical Storm ETA Emergency Response Program (HO-L1222, 5328/BL-HO), approved in 2021 and now closed. Noteworthy among the lessons learned from this project is the fact that during the emergency response stage, the institutions involved have limitations on available staff, so it is essential to support them with consultants in order to complete the identification of the expenditures to be financed by the program. Interventions focusing on disaster risk reduction, which is the framework for this program, include the Disaster Risk Prevention and Mitigation Project (MITIGAR) (HO-L1031, 2152/BL-HO), executed from 2009 to 2016. This operation contributed to improving the country's disaster risk reduction capacity, which was classified as partially satisfactory in the validation of its project completion report by the Office of Evaluation and Oversight. The Bank has also developed actions supporting disaster risk management through neighborhood improvement programs in execution (HO-L1187, 4518/BL-HO and HO-L1213, 5284/BL-HO) that increase the climate resilience of informal settlements and facilitate the socioeconomic inclusion of the vulnerable population. These are being executed by SEDECOAS. After tropical storms Eta and Iota, with resources from the technical cooperation operation Study on Disaster Risk Management (RG-T3369, ATN/MD-17269-RG, ATN/OC-17270-RG), the Bank supported the Government of Honduras in conducting flood control studies in the Sula Valley, and these are the foundation for this program's design. Recently, following Tropical Storm Julia in October 2022 and with a view to supporting the country's resilient recovery, the Bank approved the technical cooperation operation Support for the Resilient Recovery of Honduras after Tropical Storm Julia (HO-T1424, ATN/OC-20042-HO, ATN/OC-20043-HO), which has underpinned this program's design. The Bank also has technical cooperation operation HO-T1435, ATN/AC-20592-HO, ATN/CV-20593-HO, ATN/OC-20591-HO, Strengthening the Management of Informal Settlements at Risk of Natural Disasters, which includes actions to promote disaster risk management in the Sula Valley and the metropolitan area of Tegucigalpa. It is also expected that the program Low-carbon, Climate-resilient, and Inclusive Development in the El Cajón and Yojoa Lake Watersheds in Honduras (HO-L1243 / HO-G1263), which is in preparation, will contributing to the restoration of the Ulúa River watershed, adding to the long-term vision of watershed management provided in this program. The value added of the Bank's assistance through this operation is the provision of technical and financial support to help Honduras transition from a reactive approach of responding to emergencies to a proactive risk reduction approach. This is aligned with the evidence (paragraph 1.14), which demonstrates the benefits of investing in risk reduction, territorial management, and early warning systems to reduce the impact of disasters on the most vulnerable populations.

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[12] HO-T1118, ATN/OC-11283-HO, HO-T1144, ATN/OC-12173-HO, HO-T1147, ATN/OC-12339-HO, HO-T1164, ATN/OC-12952-HO, HO-T1213, ATN/OC-14716-HO, HO-T1348, ATN/OC-17742-HO, HO-T1384, ATN/OC-18343-HO, HO-T1385, ATN/OC-18506-HO, HO-T1415, ATN/OC-19560-HO, HO-T1417, ATN/OC-19806-HO.

1.16 **Lessons learned.** The operation considers the lessons learned from the evaluations of the different projects supporting disaster risk reduction and early warning systems conducted by the Bank at the regional and national levels. The following projects were given particular consideration due to their similarities with this operation, and because they have either concluded or are nearing conclusion: (i) Regarding the design of risk reduction works, this operation incorporates the lessons learned from the MITIGAR Program (HO-L1031, 2152/BL-HO) and the Natural Disaster Mitigation Program in Priority Watersheds I (HA-L1041, 2187/GR-HA); and (ii) with respect to early warning systems, it considers lessons learned from the Early Warning System and Natural Risk Management program (EC-L1003, 1707/OC-EC) and the Program to Strengthen the National Early Warning System (EC-L1221, 3913/OC-EC). Regarding neighborhood resilience, it considers the findings of the technical note Disaster Risk Management and Community Resilience in Vulnerable Neighborhoods in Guatemala, El Salvador, and Honduras (Gestión del riesgo de desastres y resiliencia comunitaria en barrios vulnerables en Guatemala, El Salvador y Honduras).

Table 1. Lessons learned

Lesson learned	Reflection in program design
1. **Prioritization of works.** Risk reduction interventions must be prioritized based on a probabilistic risk analysis.	The flood control works under program Component 1 are prioritized based on a cost-benefit analysis grounded in a probabilistic estimate of averted losses.
2. **Community involvement in early warning systems.** Early warning systems must be useful to the citizenry. Otherwise, communities will not take part in simulations and other related activities, and they may not know how to act to protect themselves in case of emergency.	Program Components II and III include the implementation of an early warning system for flooding that focuses on the most vulnerable population.
3. **Operation and maintenance.** To ensure the works' sustainable operation, their design must consider existing operation and maintenance capacity and define arrangements from the project design phase.	The investments in program Components I, II, and IV have been designed to minimize maintenance costs, and they consider the investment capacity of the entities that will be responsible for them. SIT will be responsible for maintaining the works under Components I and II. Component IV investments will be smaller, and agreements will be established with the communities for their maintenance.
4. **Community resilience.** A key practice to promote community resilience is the participatory assessment of the settlement's risk situation that identifies the main threats and their area of influence, as well as the families and people with a higher level of vulnerability, e.g., families in high-risk housing, older adults, persons with disabilities.	The participatory risk assessment of neighborhoods, including the identification of vulnerable groups, is one of the main activities of the methodology that will be applied to develop Component IV.

1.17 **Strategic alignment.** The program is aligned with the IDB Group Institutional Strategy: Transforming for Scale and Impact (CA-631) and with the objectives: (i) reduce poverty and inequality; and (ii) address climate change, since: (i) the proposed flood control works and early warning systems will contribute to reducing

the impact of floods on vulnerable populations and (ii) the disaster risk reduction measures will contribute to climate change adaptation. The program is also aligned with the following operational focus areas: (i) biodiversity, natural capital, and climate action; (ii) gender equality and the inclusion of diverse population groups, and (iii) institutional capacity, rule of law, and citizen security.

1.18 The program is aligned with the Gender and Diversity Sector Framework Document (GN-2800-13) through training, the preparation of plans, information systems, and guidelines for shelters that will promote the empowerment, participation, and inclusion of women, persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons in flood risk management, as well as the rehabilitation and construction of works to improve the population's resilience that adhere to universal accessibility standards. The operation is also aligned with the IDB Group Country Strategy with Honduras (GN-2944, GN-2944-2) through the strategic objective "Reduce poverty and improve education and health services for the vulnerable population."

1.19 **Climate financing and green financing.** By virtue of the climate change activities outlined in paragraph 1.17, **93.38%** of the operation's resources are invested in **adaptation to climate change activities**, according to the joint methodology of the multilateral development banks for tracking climate change adaptation finance. Likewise, based on the IDB Group's green finance tracking methodology (GN-3101), the operation's green finance marker (GFM) is GFM 2, as it has been developed specifically to make a positive contribution to the environmental sustainability objective "Resilience and disaster risk management." Therefore, **100%** of the operation's resources are invested in **green financing**.

1.20 **Paris alignment.** This operation has been reviewed using the Joint MDB Assessment Framework for Paris Alignment and the IDB Group Paris Alignment Implementation Approach (GN-3142-1) and is deemed to be: (i) aligned with the adaptation objective of the Paris Agreement, based on its adoption of an integral flood control approach that helps to build long-term resilience to climate change, as well as its attention to the maladaptation challenge, which is grounded in the actions set forth in the disaster risk management plan in the framework of the operation's environmental and social action plan; and (ii) universally aligned with the mitigation objective of the Paris Agreement.

B. Objetives, components, and cost

1.21 **Objectives.** The general development objective is to increase the flood resilience of vulnerable families in the Sula Valley in Honduras. The specific development objectives are to: (i) reduce the risk of vulnerable families through flood control works, considering climate change scenarios; (ii) strengthen the planning capacities of the public institutions responsible for risk management to reduce the risk of flooding; (iii) create a metropolitan or regional governance space for risk management and climate adaptation in the Sula Valley with the participation of the multilevel public sector, civil society organizations, academia, and the private sector; and (iv) strengthen vulnerable communities' flood resilience capacities, with a focus on gender, disability, and prioritizing Afro-descendant communities.

1.22 **Component I. Flood control infrastructure (US$15,400,000).** This component will finance the dredging of existing artificial canals and river segments, the construction of walls, repairs to earth embankments, and improvements to bypass works in canals to reduce risk in the most critical points of the Sula Valley. The works' design will consider climate change scenarios, and the infrastructure will incorporate universal accessibility standards for persons with disabilities. A detailed operating and maintenance plan will be developed for these works. This component includes two subcomponents:

a. **Canal rehabilitation.** Works include the rehabilitation of the Maya, Campín, and Marimba canals and the widening of the Chasnigua ravine section.

b. **River dredging.** This subcomponent includes dredging a limited volume of the Chamelecón River at the point where it passes through the city of La Lima.

1.23 **Component II. Capacity-building for risk reduction planning and for flood monitoring and early warning systems (US$1,100,000).** This component includes two subcomponents:

a. **Monitoring system and modeling center.** This subcomponent will finance rainfall and water flow monitoring equipment, as well as improvements to SIT's data analysis centers (linked to response preparedness actions under Component IV).

b. **Training for the Sula Valley's public institutions.** Training will focus on strengthening SIT, SEDECOAS, and other public institutions and universities in flood risk modeling (considering the effects of climate change) and effective flood risk management.

1.24 The information systems and training will take into account gender, ethnoracial, disabilities, and LGBTQ+ considerations.

1.25 **Component III. Sustainable territorial management (US$500,000).** This component will finance consulting services to support the creation or strengthening of a governance structure for territorial management, and to develop urban and regional studies and plans that reflect natural risk and climate change considerations, to improve territorial management in the Sula Valley. The plans will consider gender and ethnoracial approaches, the inclusion of persons with disabilities and LGBTQ+ persons,[13] and training in these approaches for governance structures.

1.26 **Component IV. Strengthening the most vulnerable population's flood resilience (US$2,000,000).** This component will finance actions to improve the resilience of informal settlements, including the design and execution of an early warning system (linked to Component II actions). These actions will focus on gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons. They will prioritize neighborhoods with Indigenous peoples and Afro-Hondurans and include guidelines with measures to

[13] An assessment of the vulnerabilities, inequities, and capacities relating to gender and diverse groups will be conducted, and the plans will incorporate actions that respond to the specific needs of each group.

prevent gender-based violence and ensure nondiscrimination against these diverse groups in shelters. This component includes three subcomponents:

a. **Community early warning systems.** This subcomponent will include the procurement and installation of alarm equipment in neighborhoods, the development of applications and systems to alert the most vulnerable populations, the creation of community emergency committees, and the measurement of community resilience to disasters. The design and execution of early warning systems will incentivize the participation of women, Indigenous peoples, Afro-Hondurans, LGBTQ+ persons, and persons with disabilities.

b. **Community works to improve resilience.** This subcomponent will include the construction of universally accessible small community works to improve resilience, including improvements to shelter infrastructure.

c. **Action plan to empower and include women, Indigenous peoples, Afro-Hondurans, persons with disabilities, and LGBTQ+[14] persons in risk management in the targeted neighborhoods.** This subcomponent will include censuses and georeferenced mapping of these groups, training in these approaches for emergency committees and other community bodies, as well as promoting the organization of these populations.

1.27 **Administration, monitoring, and evaluation (US$1,000,000)**. This component will finance the contracting of consultants for execution units, logistics costs associated with monitoring program activities, evaluations, and auditing.

C. Key results indicators

1.28 **Primary expected outcomes.** The project includes a Results Matrix (Annex II), which has been agreed upon with the borrower. It contains the program's impact, outcome, and output indicators, with their respective midterm and final targets. The expected impact is an increase in economic activity in the area of intervention, measured by means of luminosity. On this matter, the literature has shown a correlation between changes in economic activity and changes in luminosity (Donaldson and Storeygard, 2016). Likewise, there is evidence that reducing flood risk has an impact on local economic growth (Bertinelli and Strobl, 2013; Hsiang, 2010). The Results Matrix also includes 10 outcome indicators for three specific objectives: (i) beneficiaries of enhanced resilience to disasters and the effects of climate change; (ii) expected annual economic loss from floods in the targeted municipios; (iii) expected annual human loss from floods in the communities targeted by the program; (iv) quality rating of the early warning system for flooding in the Sula Valley; (v) technical staff in public institutions in the Sula Valley with capacity to carry out flood risk modeling; (vi) metropolitan or regional risk management and climate adaptation agency in the Sula Valley created and operating, incorporating women, Indigenous peoples, Afro-Hondurans, persons with disabilities, and LGBTQ+ persons; (vii) ARC-D resilience index of vulnerable neighborhoods targeted by the program; (viii) ARC-D average score for women's

[14] The plan seeks to create conditions for the effective participation of diverse groups in risk management and to improve institutional capacities (SEDECOAS, local governments, community structures, etc.) to adopt the gender and diversity approach.

participation in decision-making for risk reduction and recovery; (ix) ARC-D average score for the integration of the disabled population in emergency response planning; and (x) individuals who participate in community evacuation exercises and collective drills organized jointly with national and local authorities. The first indicator shows that the operaation will reduce flood risk for people residing in the most critical flood zones of the Sula Valley. The second and third indicators reflect that the reduction in economic and human losses is a result of the construction of flood control infrastructure. The indicator associated with the improvement of the quality of the early warning system, as well as the one on technical staff trained in flood risk modeling, are the result of the improvement in rain and water flow measurement equipment, as well as the training by the executing agencies on flood risk modeling and the effective management of the new information systems implemented. The sixth indicator addresses the idea that the creation of a governance space for risk management (in this case a metropolitan or regional agency) is the result of multiple simultaneous conditions, both for the preparation of a Metropolitan Strategic Plan with risk management considerations, and risk management training for the staff of this new governance body. Lastly, the last four indicators reflect that the improvements in the levels of resilience in vulnerable neighborhoods, as well as the levels of integration and participation by women, persons with disabilities, Indigenous populations, Afro-Hondurans, and the LGBTQ+ population are an outcome attributable to a greater number of people made aware of issues related to an improvement in their resilience, the organization, training, and equipping of new local emergency committees, the implementation of new community works to improve resilience, and the implementation of action plans for the empowerment and inclusion of vulnerable groups in community risk management. All of these indicators can be measured comparatively before and after the intervention, using information derived from open-access satellite images, as well as surveys and reports associated with the program's evaluation.

1.29 **Economic viability.** The ex ante economic analysis uses the cost-benefit methodology to determine the return on the planned investments. These investments will be implemented in areas in the Sula Valley based on the results of hydraulic modeling. The analysis estimates the benefits associated with the economic and human losses that are averted as a result of flood control infrastructure and the implementation of an early warning system, and it incorporates the operating and maintenance costs required for the interventions to function properly. The analysis shows that the program has an aggregate economic net present value of US$45 million in the baseline scenario, which reflects the intervention's economic viability. The internal rate of return is greater than 38%. The sensitivity analysis shows that the program's economic viability is maintained despite changes to the values of essential variables, with an internal rate of return of 28.1% in the most adverse scenario.

1.30 **Potential beneficiaries and benefits.** The program's beneficiaries will be the inhabitants of the Sula Valley. Benefits will be measured in terms of the reduced flood risk, which will indirectly benefit the 1.4 million inhabitants of the Sula Valley and directly benefit 30,000 people located in flood zones in the municipios of La Lima, San Manuel, and El Progreso, whose risk of being affected by flooding will decrease as a result of the program's intervention.

II. Financing Structure and Main Risks

A. Financing instruments

2.1 **Modality.** The operation is designed as a specific investment loan for US$20 million (US$13 million from the Bank's Ordinary Capital and US$7 million from the Bank's concessional Ordinary Capital). The program's disbursement period will be four years. A significant concentration of disbursements has ben planned for year 1 (66%). This is in response to the fact that the dredging of canals has been considered priority works to prevent vulnerable populations from being impacted by new floods. In order to meet this disbursement target, preparation of bidding processes is under way (paragraph 3.12).

Table 2. Program costs (US$ thousands)*

Components	IDB	Total	%
Component I – Flood control infrastructure	**15,400**	**15,400**	**77.00**
a. Canal rehabilitation	12,180	12,180	60.9
b. River dredging	3,220	3,220	16.1
Component II – Capacity-building for risk reduction planning and flood monitoring and early warning systems	**1,100**	**1,100**	**5.50**
a. Monitoring system and modeling center	900	900	4.5
b. Training for the Sula Valley's public institutions	200	200	1.0
Component III – Sustainable territorial management	**500**	**500**	**2.50**
Component IV – Strengthen the most vulnerable population's flood resilience	**2,000**	**2,000**	**10.00**
a. Community early warning systems	1,215.19	1,215.19	6.0
b. Community works to improve resilience	471.13	471.13	2.4
c. Empowerment and inclusion action plan	313.68	313.68	1.6
Administration, monitoring, and evaluation	**1,000**	**1,000**	**5.00**
Total	**20,000**	**20,000**	**100.00**

*Costs by subcomponent or main activity are indicative.

Table 3. Disbursement schedule (US$ thousands)

Components	Year 1	Year 2	Year 3	Year 4	Total
Component I	11,460	3,940			15,400
Component II	1,015	85			1,100
Component II	100	265	135		500
Component IV	366.4	803.1	596	234.5	2,000
Administration or other contingencies	340	350	147	163	1,000
Total	**13,281.4**	**5,443.1**	**878**	**397.5**	**20,000**
%	**66.4**	**27.2**	**4.4**	**2**	**100**

B. Environmental and social risks

2.2 This operation is classified as a Category “B” operation in terms of its environmental and social impact, since the negative impacts of the flood control rehabilitation works and infrastructure improvements in the Sula Valley will be localized and of limited duration. The main impacts of the construction phase will be associated with potential physical and economic displacement, which would be localized and temporary, the generation of waste and effluents during canal dredging activities, and impacts associated with workplace and community health and safety. In the operating phase the impacts will be minimal and associated with the health and safety of the workers involved in the canals’ preventive maintenance works. These impacts can be mitigated in the construction and operating phase through the application of mitigation measures and good construction practices that ensure compliance with national and local regulations and with the Bank’s Environmental and Social Performance Standards set forth in its Environmental and Social Policy Framework.

2.3 The environmental and social risk rating is considered substantial, essentially due to the vulnerable context of low-income Afro-Honduran populations, workplace and community health and safety risks, and the risk of inadequate management of waste generated from dredging works.

2.4 The disaster and climate change classification is high. Exposure to natural threats such as flooding, erosion, and earthquakes is high, especially the threat of floods affected by climate change. The level of criticality and vulnerability of the projects proposed in the sample is high due to their potential localized impact on urban centers and the works’ potential effects on the natural and human environment. Executing program works correctly, in and of itself, will reduce risk, but exhaustive due diligence is required to avoid maladaptation or the population’s overexposure to risks stemming from changes in use, occupations, or morphodynamic changes in the river beds. The complete risk narrative has been completed, as well as a failure modes identification workshop and a simplified probabilistic quantitative risk analysis including climate change scenarios. A strategic disaster risk management plan has been developed with its corresponding emergency support plan.

2.5 The operation’s preparation included an assessment of the executing agencies’ environmental and social management system, and the agencies will be strengthened to ensure that they can adequately execute loan-financed activities pursuant to the requirements set forth in the Environmental and Social Policy Framework. An environmental and social analysis (ESA) and an environmental and social management plan (ESMP) were also developed, including the scope of all planned interventions. The ESMP incorporates a stakeholder engagement plan that sets forth the processes and procedures for stakeholder engagement throughout the program’s life cycle, including the development of grievance and complaints mechanisms and significant consultations tailored to each of the subprojects and their contextual risks.

2.6 The preliminary version of the ESA and ESMP, including the stakeholder engagement plan, were disclosed on the Bank’s external website prior to the analysis mission. During the preparation phase, consultation events were held in person at the Ministry/Colegio Nuevo Amanecer facilities and virtually through

Facebook platforms. The call for participants was broad and included diverse institutional profiles and geographic, gender, and social identities. Feedback was positive regarding the project's development and the benefits that it would bring to the municipios, especially in terms of reducing the vulnerability of the San Manuel and La Lima communities. Themes discussed included the request for round-table discussions to resolve potential conflicts during the projects' execution. Participants were informed that SIT and SEDECOAS/FHIS have a transparent, open, and continually available communication mechanism throughout all phases of the program to respond to the complaints, concerns, and questions from the populations residing in the areas where the works will be executed. The consultation report and the final version of the ESA and ESMP were disclosed on the Bank's website.

2.7 **Fiduciary risks.** The main fiduciary risks identified are: (i) the failure to appoint fiduciary staff to work full-time on the program will lead to delays in the program's fiduciary management, which would affect its execution schedule; and (ii) the program's centralized execution mechanism in SIT and SEDECOAS/FHIS could generate long/complex process flows or steps that do not add value, which would cause delays in contracting/paying contractors and affect the program's execution schedule. Recommendations to mitigate the first risk are: (i) issue a broad call for applicants locally and in other countries in the region to select fiduciary staff with experience; (ii) offer competitive honorariums to the fiduciary consultants who are contracted; and (iii) support SIT, from the operation's design phase, in the development of bidding documents with the help of specialized consulting services that could be financed with technical cooperation resources. Recommendations to mitigate the second risk are: (i) agree upon and approve the internal fiduciary process flows that will govern the program's execution; and (ii) incorporate these processes in the program Operations Manual.

2.8 **Synergies with other financiers.** This program was designed jointly with the National Electric Power Company (ENEE) and the Japan International Cooperation Agency to ensure the complementarity of these interventions and avoid duplications. Therefore, if the El Tablón dam is built, this program's investments would still provide the benefit of additional protection from the Chamelecón River floods. Moreover, the urban and regional plans under Component III, which focus on territorial management, and the emergency plans under Component IV will complement the Flood Control Master Plan that will be developed by the Japan International Cooperation Agency, which aims to prioritize investments in long-term risk reduction.

2.9 **Synergies with IDB Lab and IDB Invest.** Component IV includes the development of applications to alert the vulnerable population. These applications will be developed through open innovation competitions. The program is expected to coordinate with IDB Lab in designing these competitions. IDB Lab will contribute its knowledge of the innovation ecosystem in Honduras to ensure the participation of key actors in the competitions, and to ensure that their design incorporates the lessons learned by IDB Lab in the implementation of these innovation tools. The public flood risk information generated by the program (Component II) will be an input to enhance the resilience of the investments financed by IDB Invest in the Sula Valley.

2.10 **Sustainability of prior works.** The program will help the Government of Honduras optimize its current spending on maintenance and repairs, as improving the system's hydraulic functioning will make it more resistant to flood damage. This will reduce average annual spending on maintenance and enhance the system's sustainability (paragraph 1.11).

III. Implementation and Management Plan

A. Summary of implementation arrangements

3.1 **Executing mechanism.** The operation will have two coexecuting agencies: SIT will be the executing agency for Components I, II, and III, and SEDECOAS/FHIS will be the executing agency for Component IV.

3.2 SIT[15] will execute the program through its Northwestern Regional Directorate, which has a technical control and monitoring unit in the territory. The administrative management unit, investment and technical support unit, and environmental management unit (at the central level) will also participate, and they will be strengthened by the following contracted consultants: a financial analyst, procurement specialist, administrative assistant, social specialist, and supervising engineers. To execute Component II, SIT will sign institutional collaboration agreements with the Secretariat of National Contingencies and Risk Management (COPECO), to share rainfall data, and with the Secretariat of Interior, Justice, and Decentralization (SEGOB) for the technical contributions that SIT requires to carry out the necessary contracting to implement the activities under Component III. The signed agreement with SEGOB will be a condition precedent to the disbursement of Component III resources.

3.3 SEDECOAS/FHIS[16] will execute Component IV through a special ad hoc execution unit created for the program. The unit will include, at a minimum, a coordinator, a financial analyst, and an administrative assistant. The SEDECOAS/FHIS environmental unit will support the socioenvironmental issues under Component IV. The community works to improve resilience, under Component IV, will be executed through the community-executed projects (PEC) methodology developed by FHIS and adapted for this program's execution based on the lessons learned during the methodology's application. The approval of the PEC manual will be a condition precedent to the disbursement of Component IV resources for community works to improve resilience. The municipios will participate in the execution of the community works using the PEC methodology.

3.4 The program's preparation included an institutional capacity assessment of SIT and SEDECOAS/FHIS, based on the Institutional Capacity Assessment Platform (ICAP) methodology, which identified areas with opportunities for improvement. According to the findings of the assessment, SIT and SEDECOAS/FHIS have

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15 SIT was created through Decree PCM-05-2022, effective on 6 April 2022, to replace the Secretariat of Infrastructure and Public Services (INSEP).

16 SEDECOAS was created through Executive Decree PCM-056-2019, published in Honduras's *La Gaceta* on 12 September 2019. SEDECOAS oversees the FHIS, which was created through Legislative Decree 12-90 of 22 February 1990, published in *La Gaceta* on 2 March 1990. The effective period of the FHIS was extended until 31 December 2026 through Decree 118-2022, published in *La Gaceta* on 31 October 2022.

experience executing programs financed by international agencies, but their teams will require strengthening to ensure they have adequate capacity for the program's technical, procurement, financial, environmental, and social management. The program's budget includes resources to contract consultants to build this capacity.

3.5 The operation will have two Operations Manuals, one for each executing agency. These will specify the roles of other participating institutions, such as the municipalities. Each executing agency will be responsible for submitting to the Bank the audits, semiannual reports, midterm and final evaluations, and impact assessments that correspond to the components for which they are responsible. The actions that will be developed by both executing agencies are complementary but independent. Monitoring meetings and missions will take place jointly with both executing agencies to help strengthen this complementarity during program monitoring.

3.6 **Special contractual conditions precedent to the first disbursement of the loan: (a) for Components I, II, and III: (i) a general coordinator, environmental specialist, procurement specialist, and financial specialist have been designated for the program, and a social specialist has been selected or designated; and (ii) the Operations Manual has been approved for these components; (b) for Component III: an agreement has been signed with SEGOB for the execution of these activities; and (c) for Component IV: (i) an execution unit has been formed including the selection or designation of a coordinator, financial analyst, and administrative assistant for the program; (ii) the Operations Manual has been approved for this component; and (iii) for the Component IV community works to improve resiliency subcomponent: the community-executed projects manual has been approved.** The rationale for the measures related to consultant contracting or the designation of key staff is to ensure the program has the human resources required for its efficient and effective execution. The rationale for those relating to the approval of the general Operations Manual or a specific component's Operations Manual is that these manuals help to improve the executing agency's internal organization for program implementation, which, in turn, improves the efficiency and effectiveness of the intervention. Lastly, the signed agreement by SIT and SEGOB will ensure that the conditions for collaboration are defined for both institutions, thereby contributing to the effectiveness of the actions under Component III.

3.7 The operation will apply the Bank's procurement policies (GN-2349-15 and GN-2350-15) and use the country systems (HONDUCOMPRAS): (i) to publish procurement notices; and (ii) for the procurement of goods, works, or nonconsulting services through the electronic catalogue/framework agreement procurement method and private bidding processes for procurement within the shopping threshold amounts for Honduras (in accordance with the terms of document GN-2538-25, approved in March 2019). The procurement plan includes contracting that will be carried out under the country system pursuant to the terms outlined in this paragraph.

B. Summary of arrangements for monitoring results

3.8 The executing agencies have agreed upon a project monitoring and evaluation plan (required link 2) and allocated budget, which includes: (i) indicators for monitoring and evaluating the program's impact and outcomes, its baseline, and measurement methodology; (ii) critical path of activities and outputs; and (iii) description, schedule, and those responsible for monitoring.

3.9 **Monitoring.** The executing agencies will send the Bank, within 60 days after the end of each six-month period of each year during execution, a monitoring report on the progress achieved by the activities corresponding to the part of the project for which each executing agency is responsible. The reports will focus on the fulfillment of output indicators and the progress achieved towards the outcomes outlined in the Results Matrix, analyze the risks and problems encountered, and propose corrective measures. The second semester reports will include the annual work plan for the following calendar year, with a disbursement forecast and an updated procurement plan.

3.10 **Evaluation.** The executing agencies will send the Bank midterm evaluation reports 90 days after the date on which 50% of resources are disbursed in the components for which they are responsible; and the final evaluation report 90 days after the date on which 100% of the resources are disbursed in the components for which they are responsible. These reports will include: (i) an analysis of the financial execution of the corresponding program components; (ii) progress made towards achieving the Results Matrix outputs, outcomes, and impacts corresponding to these components; and (iii) lessons learned.

3.11 The final evaluation report, which will be the responsibility of the coexecuting agencies for the components for which they are responsible, will include the results of the program's impact measurement, in accordance with the agreed upon evaluation plan. This plan proposes an impact assessment that will identify the effects attributable to the program in terms reduced flood-related economic and human losses, based on quasi-experimental methodologies (entropic balancing with differences in differences) to create a counterfactual scenario. This evaluation represents one of the first attempts to empirically estimate risk with primary information, providing an innovative methodological approach for rigorous quantitative risk assessment, which traditionally resorts to the construction of hypothetical scenarios. As opposed to other threats that recur only after long periods of time, and that will not likely occur during the life of the project, which makes it difficult to attribute impact, this program will mitigate the negative effects of high-frequency phenomena. Therefore, the risk of nonevaluability due to the absence of a disaster is very low. The ex ante economic analysis shows that the events in the area of intervention are sufficiently regular. The threat's return period is objectively low. The evaluation plan delves deeper into the methodological approach and the information required to conduct the impact assessment.

C. Post-approval design activities

3.12 Once the operation is approved, SIT is expected to begin the procurement processes for the works under Component I so these works can begin in the summer of 2025. This is not expected to include contract awarding and contracting,

but only moving forward with the bidding and evaluation steps of the process. Resources from technical cooperation operation HO-T1455, which is in preparation, will be used to support the preparation of the bidding processes.

Development Effectiveness Matrix		
Summary	HO-L1244	
I. Corporate and Country Priorities		
Section 1. IDB Group Institutional Strategy Alignment		
Operational Focus Areas	-Biodiversity, natural capital, and climate action -Gender equality and inclusion of diverse population groups -Institutional capacity, rule of law, citizen security	
[Space-Holder: Impact framework indicators]		
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2944	Reduce poverty and improve education and health services for the vulnerable population.
Country Program Results Matrix	GN-3207	The intervention is included in the 2024 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		9.6
3.1 Program Diagnosis		2.1
3.2 Proposed Interventions or Solutions		3.5
3.3 Results Matrix Quality		4.0
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		10.0
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		6.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium Low
Environmental & social risk classification		B
IV. IDB´s Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Treasury. Procurement: Information System, Price Comparison.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	RG-T3369, HO-T1424

***Evaluability Assessment Note:** The general development objective of the project is to increase the flood resilience of vulnerable families in the Sula Valley in Honduras. The specific development objectives are: (i) to reduce the risk of vulnerable families through flood control works, considering climate change scenarios; (ii) to strengthen the flood risk reduction planning capacities of public institutions responsible for risk management; (iii) to create a metropolitan or regional governance space for risk management and climate adaptation in the Sula Valley, with the participation of the multilevel public sector, civil society organizations, academia, and the private sector; and (iv) to strengthen capacities for flood resilience in vulnerable communities, with a focus on gender, disability and prioritizing Afro-descendant communities.*

The diagnosis is adequate, as it clearly presents the problem on which the project focuses on, as well as its determinants. The Results Matrix has a clear vertical logic and its indicators are SMART. The economic analysis consisted of estimating the net benefits of the project through a Cost-Benefit Analysis (CBA), based on the expected benefits of reducing the economic and human losses, thanks to the flood control infrastructure and the implementation of an early warning system.

The program has a Monitoring and Evaluation Plan that specifies: (i) the methodology for measuring indicators; (ii) attribution of project results; (iii) data requirements; and (iv) those responsible and the estimated budget. The evaluation of the results will be done with a before-and-after analysis for some of the indicators of the results matrix, where the attribution of the results depends on the link between the specific outputs of each component and the associated results. It should be noted that an impact evaluation with a quasi-experimental method is also proposed, which will allow the evaluation of the impact of the project on the economic activity of the intervention area, measured using satellite data of nighttime luminosity.

RESULTS MATRIX

Project objective:	Increase the flood resilience of vulnerable families in the Sula Valley in Honduras.
Specific objectives:	(i) Reduce the risk of vulnerable families through flood control works, considering climate change scenarios; (ii) Strengthen the flood risk reduction planning capacities of the public institutions responsible for risk management; (iii) Create a metropolitan or regional governance space for risk management and climate adaptation in the Sula Valley, with the participation of the multilevel public sector, civil society organizations, academia, and the private sector; (iv) Strengthen vulnerable communities' flood resilience capacities, with a focus on gender, disability, and prioritizing Afro-descendant communities.

GENERAL DEVELOPMENT OBJECTIVE

Indicators	Unit of measure	Baseline		Target		Means of verification	Comments
		Value	Year	Year	Value		
General development objective: Increase the flood resilience of vulnerable families in the Sula Valley in Honduras.							
I1. Average luminosity in the area of intervention	nW/cm^2/sr	4.302	2023	2028	4.333	Black Marble (NASA)	This indicator is used as a proxy for local economic activity. Various studies have shown that levels of luminosity are correlated with economic activity (Levin and Zhang, 2017; Pinkovskiy and Sala-i-Martin, 2016; Nordhaus and Chen, 2015). Given the lack of availability of traditional measures of economic activity at the municipal level, the disaggregation of which is necessary for purposes of impact evaluation, the intensity of nocturnal light obtained by remote detection will be the basis for approximating economic activity. The target value represents the impact on local economic growth attributable to flood risk

Indicators	Unit of measure	Baseline		Target		Means of verification	Comments
		Value	Year	Year	Value		
							reduction, using luminosity as a proxy based on estimates by Hsiang (2010),[1] Strobl (2012),[2] and Bertinelli and Strobl (2013).[3]

1 See https://doi.org/10.1073/pnas.1009510107.

2 See https://doi.org/10.1016/j.jdeveco.2010.12.002.

3 See https://doi.org/10.1175/JAMC-D-12-0258.1.

SPECIFIC DEVELOPMENT OBJECTIVES (SDOS)

Indicators	Unit of measure	Baseline		Target		Means of verification	Comments
		Value	Year	Value	Year		
SDO 1: Reduce the risk of vulnerable families through flood control works, considering climate change scenarios.							
R1. Beneficiaries of enhanced resilience to disasters and the effects of climate change through flood control works	#	0	2024	30,320	2028	Modeling of social consequences of floods for the program's preparation (iPresas, 2024), ex ante economic analysis, and impact assessment. The model will be the same one used for the program's design, which has been transferred to the executing agency and is based on open software (HEC-HMS and HEC-RASS). Its parameters will be adjusted with the interventions completed by the program.	The target value is obtained from the differential between the population impacted by floods without the intervention and the population impacted considering the effect of the interventions.
R2. Expected annual economic loss from floods in the targeted municipios	US$ million	21.4	2024	18.7	2028		The baseline and target values are estimated based on modeling the consequences of floods in the area of intervention, adjusted ex post with information from the completed interventions and the quality rating of the early warning system.
R3. Expected human loss from floods in the communities targeted by the program	#	2.7	2024	1.8	2028		
SDO 2: Strengthen the flood risk reduction planning capacities of the public institutions responsible for risk management.							
R4. Quality rating of the early warning system for flooding in the Sula Valley	Index	4	2023	7	2028	The baseline was assessed as part of the iPresas (2024) report, and the target will be measured in the program's final evaluation. Results based on the SUFRI (Sustainable Strategies for Urban Flood Risk Management with Non-Structural Measures to Cope with Residual Risk) project.[4]	SUFRI is a methodology developed by the European Commission and the European Environment Agency. It evaluates the quality of an early warning system based on the alert systems, the existence (or lack of) an emergency plan, coordination between emergency services, and training of the population. It is an index that ranges from 1 (deficient conditions) to 10 (optimal conditions).
R5. Technical staff in public institutions in the Sula Valley have training to carry out flood risk modeling	#	0	2023	30	2028	Evaluation of graduates by the institution providing the training.	

[4] See Sustainable Strategies of Urban Flood Risk Management with non-structural measures to cope with the residual risk (SUFRI).

Indicators	Unit of measure	Baseline		Target		Means of verification	Comments
		Value	Year	Value	Year		
SDO 3: Create a metropolitan or regional governance space for risk management and climate adaptation in the Sula Valley, with the participation of the multilevel public sector, civil society organizations, academia, and the private sector.							
R6. Metropolitan or regional risk management and climate adaptation agency created and operating, incorporating women, Indigenous peoples, Afro-Hondurans, persons with disabilities, and LGBTQ+ persons	#	0	2024	1	2028	Legislative act (decree, certificate of incorporation, or other) establishing the creation, responsibilities, bylaws, and internal regulations formalized by the intervening actors, and meeting minutes (at least bimonthly).	An agency is understood to be a coordination and organization body, such as a council, roundtable, commission, or committee, to be defined in the Metropolitan Strategic Plan. The agency will be encouraged to consider the participation of at least 40% of both genders (men and women), 10% Indigenous peoples and Afro-Hondurans, 10% persons with disabilities, and 10% LGBTQ+ persons. These numbers refer to the proportion of each population group within the total population.
SDO 4: Strengthen vulnerable communities' resilience capacities against flooding, with a focus on gender, disability, and prioritizing Afro-descendant communities.							
R7. ARC-D resilience index of vulnerable neighborhoods targeted by the program	Index	40	2024	75	2028	Results obtained based on the ARC-D tool.[5] The indicators are calculated based on responses from key informants from the community at three moments: at the beginning, middle, and end of the intervention. The baseline will be updated before the start-up workshop. The target values will be obtained by the program's promoters as part of the inputs for the final evaluation.	ARC-D is a methodology developed by the nongovernmental organization GOAL to assess a neighborhood's resilience conditions. It evaluates 30 aspects in 8 categories (economic, environment, policy and governance, health, infrastructure, social/cultural, disaster risk management, and education). These are indicators of perception that are classified according to 5 levels (from 1 to 5), each one corresponding to good practice benchmarks. Three measurements (beginning, middle, and end) will be taken for all indicators. The index ranges from 0 to 150.

[5] See Analysis of the Resilience of Communities to Disasters.

Indicators	Unit of measure	Baseline		Target		Means of verification	Comments
		Value	Year	Value	Year		
R8. ARC-D average score for women's participation in decision-making for risk reduction and recovery	Index	2.8	2024	4	2028		The average value of indicator 9 of the ARC-D will be evaluated (values range from 1 to 5). This indicator addresses the participation of women in all targeted neighborhoods.
R9. ARC-D average score for the integration of persons with disabilities in emergency response planning	Index	1.4	2024	2.9	2028		The average value of indicators 8, 24, 29 of the ARC-D tool will be evaluated (values range from 1 to 5). These indicators address the integration of persons with disabilities in decision-making and emergency plans, and the presence of disability considerations in shelters in all targeted neighborhoods. The baseline average is 1.67 for indicator 8; 1.0 for indicator 24; and 1.67 for indicator 29.
R10. Individuals who participate in community evacuation exercises and collective drills organized jointly with national and local authorities	#	0	2024	2,000	2028	Implementation monitoring and final evaluation reports	Based on experience with similar projects executed in the area of intervention, it is estimated that roughly 10% of the total population of selected neighborhoods will participate.

OUTPUT INDICATORS

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification	Comments
Component I: Flood control infrastructure.										
P1. Rehabilitated flood control canals with universal accessibility standards	#	0	2024		2			2	Submission of reports	
P2. Dredging executed	#	0	2024	2				2		
Component II: Capacity-building for risk reduction planning and flood monitoring and early warning systems.										
P3. Flood monitoring and warning system equipped and operating, including data pertaining to gender, ethnicity-race, persons with disabilities, and LBGTQ+ persons	#	0	2024	1				1	Submission of reports	The systems should consider variables that can be disaggregated according to these considerations, and gender and diversity analyses when applicable.
P4. Adequate, equipped, and operating flood modeling center	#	0	2024		1			1		
P5. Training in flood modeling for staff of public institutions in the Sula Valley	#	0	2024	50	50			100		
P6. Training for staff of public institutions in the Sula Valley in flood risk reduction planning, considering gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons	#	0	2024		50			50	Submission of reports	Training will include modules that aim to develop the necessary skills and knowledge to collect and analyze data on gender, persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons (see optional link 4).
Component III: Sustainable territorial management.										
P7. Metropolitan or regional strategic plan developed, reflecting risk management and climate change adaptation considerations, with a focus on gender, race and ethnicity, and the inclusion of persons with disabilities and LGBTQ+ persons	#	0	2024		1			1	Submission of reports	The plan includes: (i) diagnostic assessment and identification of the problem; (ii) identification of critical urban areas; (iii) prioritization of projects with metropolitan or regional impact that address this problem and these critical urban areas; (iv) development of feasibility of government approval for 2 of these projects; (v) organizational

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification	Comments
										proposal for their execution; (vi) implementation plan of the metropolitan agency associated with these projects, including proposed structure, authority, resources, and sustainability. Detailed assessments will be carried out to identify and understand the specific vulnerabilities faced by diverse population groups, such as women, Indigenous peoples, Afro-Hondurans, persons with disabilities, and LGBTQ+ persons (see optional link 4).
P8. Metropolitan or regional agency's implementation plan initially executed	#	0	2024			1		1	Submission of reports	
P9. Members of governance structures for the territorial management of the Sula Valley are trained in flood risk management sensitive to gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons	#	0	2024		20			20		Training will include modules that aim to develop the necessary skills and knowledge to collect and analyze data on gender, persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons (see optional link 4).
Component IV: Strengthening the most vulnerable population's flood resilience.										
P10. People with increased awareness of issues pertaining to improving their resilience	#	0	2024	2,000	10,300	10,300	3,400	26,000	Submission of reports and list of participants	
P10.1. Women with training and increased awareness of issues pertaining to improving their resilience	#	0	2024	1,020	5,253	5,253	1,734	13,260		
P10.2. Men with training and increased awareness of issues pertaining to improving their resilience	#	0	2024	980	5,047	5,047	1,666	12,740	Submission of reports and list of participants	

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification	Comments
P10.3. Indigenous peoples and Afro-Hondurans with training in themes pertaining to improving their resilience	#	0	2024	60	310	310	100	780		
P11. Local emergency committees and early warning systems organized and equipped, applying a focus on gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons	#	0	2024				6	6	Submission of reports	The committees will require ethnic diversity and gender balance.
P11.1. Disaster risk reduction master plans developed in the intervention neighborhoods, incorporating a focus on gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons	#	0	2024			5		5		
P11.2. Preparedness and response plans developed in the intervention neighborhoods, incorporating a focus on gender and the inclusion of persons with disabilities, Indigenous peoples, Afro-Hondurans, and LGBTQ+ persons	#	0	2024			5		5	Submission of reports	
P12. Community works to improve resilience, with universal accessibility standards	#	0	2024				6	6		

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification	Comments
P13. Guidelines developed with measures to prevent gender-based violence and discrimination based on gender, race-ethnicity, disability, sexual orientation, and gender identity in shelters	#	0	2024		1			1		
P14. Action plan to empower and include women, Indigenous peoples, Afro-Hondurans, persons with disabilities, and LGBTQ+ persons in risk management in communities developed and implemented in the targeted neighborhoods	#	0	2024				6	6	Submission of final evaluation report	The plan seeks to create conditions for the effective participation of diverse groups in risk management and improve institutional capacities (SEDECOAS, local governments, community structures, etc.) to adopt the gender and diversity approach. These actions include censuses and georeferenced maps of these groups, as well as promoting their organization.

Country: Honduras **Division**: RND **Operation number:** HO-L1244 **Year**: 2024

Fiduciary Agreements and Requirements

Executing agencies: Secretariat of Infrastructure and Transportation (SIT) and the Secretariat of Community Development, Water, and Sanitation / Honduran Social Investment Fund (SEDECOAS/FHIS).

Operation name: Program to Increase Flood Resilience in the Sula Valley in Honduras.

I. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT

1. Use of country system in the operation[1]

☒ Budget	☒ Reports	☒ Information system	☐ National competitive bidding (NCB)
☒ Treasury	☐ Internal audit	☐ Shopping	☒ Other
☒ Accounting	☒ External control	☐ Individual consultants	☐ Other

2. Fiduciary execution mechanism

☒	Specific features of fiduciary execution	The operation will apply the Bank's procurement policies (GN-2349-15 and GN-2350-15), and country systems (HONDUCOMPRAS) will be used only to publish procurement notices and for procurement through the electronic catalogue/framework agreement and private bidding for procurement within the shopping threshold amounts for Honduras for goods, works, and nonconsulting services contracts, as approved by the Bank's Board of Executive Directors. The operation's procurement plan will list the procurements to be conducted using the country system, within the scope approved by the Bank. Document OP-273-12 and its supplemental instructions will be used for the program's financial management. The Government will use the Integrated Financial Information System (SIAFI/UEPEX) as the financial management system. As an additional note, each executing agency will receive separate advances of funds, and these will be replenished separately once 80% of each advanced amount has been justified.

3. Fiduciary capacity

The coexecuting agencies' fiduciary capacity	SIT's fiduciary capacity is medium-high, according to the findings of the assessment carried out using the Institutional Capacity Assessment Platform (ICAP).

[1] Any system or subsystem that is subsequently approved may be applicable to the operation, pursuant to the terms of its validation by the Bank.

4. Fiduciary risks and risk response

Risk type	Risk	Risk level	Risk response
Human resources	The failure to appoint fiduciary staff to work full-time on the project will lead to delays in the project's fiduciary management, which would affect its execution schedule.	Medium-High	- Issue a broad call for applicants locally and in other countries in the region to select fiduciary staff with experience. - Offer competitive honorariums to the fiduciary consultants who are contracted. - Support the program's start-up with procurement experts financed with technical cooperation resources.
Governance systems	The program's centralized execution mechanism in SIT and SEDECOAS/FHIS could generate long/complex process flows or steps that do not add value, which would cause delays in contracting/paying contractors and affect the program's execution schedule.	Medium-High	- Agree upon and approve the internal fiduciary process flows that will govern the program's execution. -Incorporate these processes in the program Operations Manual.

5. **Policies and guidelines applicable to the operation:** Documents GN-2350-15/ GN-2349-15/ OP-272-3/GN-2038-16 / Financial management: OP-273-12 and supplemental instructions.

6. **Exceptions to policies and guides:** None.

II. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

Special conditions precedent to the first disbursement: (a) for Components I, II, and III: (i) a general coordinator, environmental specialist, procurement specialist, and financial specialist have been designated for the program, and a social specialist has been selected or designated; and (ii) the Operations Manual has been approved for these components; (b) for Component III: an agreement has been signed with the Secretariat of the Interior, Justice, and Decentralization (SEGOB) for the execution of these activities; and (c) for Component IV: (i) an execution unit has been formed including the selection or designation of a coordinator, financial analyst, and administrative assistant for the program; (ii) the Operations Manual has been approved for this component; and (iii) for the Component IV community works to improve resiliency subcomponent: the community-executed projects manual has been approved.
Exchange rate: For the purposes of Article 4.10 of the General Conditions, the parties agree that the exchange rate to be used will be the rate stipulated in Article 4.10(b)(i). For the purpose of determining the equivalency of expenditures incurred in local currency chargeable against the local contribution, or for reimbursement of expenditures charged to the loan, the exchange rate used will be that prevailing on the effective date on which the borrower, executing agency, or any other individual or entity delegated the authority to incur expenses, makes the respective payments or transfers to the contractor, vendor, or beneficiary.

Audit type: Audited financial statements.

III. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

☒	Bidding documents	The Bank's standard bidding documents or the documents agreed upon between the executing agency and the Bank for a specific procurement item will be used for works, goods, and nonconsulting services procured in accordance with the procurement policies (GN-2349-15) and subject to international competitive bidding. Likewise, the selection and contracting of consulting services will be in accordance with the Policies for the Selection and Contracting of Consultants (GN-2350-15) using the standard request for proposals issued by the Bank or agreed upon between the executing agency and the Bank for a specific selection process. For national competitive bidding, a procurement document will be agreed upon between Honduras's Regulatory Office for Government Contracting and Procurement (ONCAE) and the Bank. The project's sector specialist is responsible for reviewing the technical specifications and terms of reference for procurement during preparation of the selection processes. This technical review may be ex ante and is independent of the procurement review method and use of country systems.
☒	Use of country systems	Procurement via electronic catalogue/framework agreement and limited bidding will be used for planned procurements within the shopping threshold amounts for Honduras for goods, works, and nonconsulting services contracts, as approved by the Bank's Board of Executive Directors. The procurement plan for the operation will list the procurements to be conducted using the country system within the approved scope. If the scope of Board approval for use of the country system is expanded, it will be applicable to the operation.
☒	Complementary procurement support	Since the operation requires the preparation of bidding documents, assessments, and contracting for the canal dredging and rehabilitation works, through advance contracting processes, an experienced consultant in procurement will be needed to support the SIT technical team in the project's initial phase to proceed with procurement processes for: the rehabilitation of the Maya Canal and Marimba/Campín Canal and the cleaning and dredging of the Chasnigua ravine and Chamelecón River, as well as consulting services to supervise these works. The total amount estimated in the procurement plan is US$15.4 million. This does not include contract adjudication and contracting, but only proceeding with the bidding and evaluation process up until the adjudication and contracting phase. Therefore, the operation does not envisage retroactive financing or eligible expenses incurred by the borrower before the loan approval date.
☒	Recurrent costs	The recurrent costs (operating costs) and transfers required to begin the program's operation will be processed in accordance with the executing agency's administrative procedures. The Bank will review and accept these procedures, as long as they do not violate the principles of economy, efficiency, and competition, pursuant to the terms for processing recurrent costs and the Expenditure Eligibility Policy (GN-2331-5) and its updates.
☒	Procurement supervision	Supervision will be ex ante, except where ex post supervision is warranted. Procurement processes conducted through the country system will be supervised using the country supervision system. The supervision method,

<table>
<tr><td></td><td></td><td colspan="4">whether (i) ex ante, (ii) ex post, or (iii) country system, will be determined for each selection process. Ex post reviews will be conducted preferably every 12 months in accordance with the project supervision plan, subject to changes during execution. Fiduciary visit reports that include the ex post review will include at least one physical inspection visit selected from among the procurement processes that comprise the operation’s critical path. The types of procurement and threshold amounts for ex post review are as follows:</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td>Coexecuting agencies</td><td>Works</td><td>Goods/Services</td><td>Consulting services</td></tr>
<tr><td>SIT and SEDECOAS/FHIS</td><td>US$150,000</td><td>US$25,000</td><td>Competitive individual consulting</td></tr>
<tr><td>☒</td><td>Records and files</td><td colspan="4">The borrower, through its coexecuting agencies, will maintain records and files for all contract documentation during the project’s execution period and for up to three years after the last loan disbursement. This documentation is subject to review by the Bank or its consultants and will include, without limitation, the duly signed original contract, the analysis of the respective proposals, and the adjudication recommendation. The borrower will present this documentation to the Bank upon request.</td></tr>
</table>

Main procurement items

Procurement description	Selection method	New procedures/ tools	Estimated date	Estimated amount (US$)
Goods				
SEDECOAS/FHIS vehicles	National competitive bidding		06/06/2025	65,040.00
Technological equipment (computers)	Shopping by open invitation		07/03/2025	135,000.00
4 SIT vehicles	International competitive bidding		06/17/2025	160,000.00
Works				
Works to improve temporary shelters	Shopping by open invitation		04/28/2026	121,800.00
Works to expand and improve the SIT’s northwestern region modeling center in Sula Valley	Shopping by open invitation		08/05/2024	488,000.00
Contracting of works to rehabilitate the Maya Canal and Marimba/Campín Canal, and to clean and dredge the	International competitive bidding		06/04/2025	14,600,000.00

Chasnigua ravine and Chamelecón River				
Nonconsulting services				
Installation of three signs containing simplified plans for each neighborhood located in critical sites with massive water flow	Shopping by open invitation		07/09/2026	4,065.00
Firms				
Diploma program in hydraulic hydrology for staff in SIT and institutions linked to flood prevention in the Sula Valley	Selection based on the consultants' qualifications		04/10/2025	100,000.00
Development of a metropolitan or regional strategic plan and an execution plan for metropolitan or regional institutions	Quality- and cost-based selection		07/04/2025	350,000.00
Supervision of Maya Canal and Marimba/Campín Canal rehabilitation works, and Chasnigua ravine and Chamelecón River cleaning and dredging works	Quality- and cost-based selection		12/3/2024	800,000.00
Individuals				
Coordinating engineers for technical execution unit (4 x 24 months)	Selection of individual consultant (3CVs)		12/04/2024	240,000.00
Specialized technical staff in risk management and social approaches (2)	Selection of individual consultant (3CVs)		03/02/2025	173,040.00
Component coordinator	Selection of individual consultant (3CVs)		12/04/2024	138,960.00

To access the procurement plan, click here.

Procedures	Rationale for use
Leasing and second-hand goods	Teams' updated and maintained computer equipment.

IV. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT

☒	Programming and budget	Challenges in budget execution are anticipated due to potential allocation restrictions that could affect execution schedules. This will require contracting staff with experience in the Bank's financial management area to mitigate the institution's lack of experience with IDB projects.
☒	Treasury and disbursement management	Prior to the first disbursement, a special account for managing program funds will be opened at the Central Bank of Honduras (BCH), including its operating account, which will be part of the Treasury Single Account. The disbursement mechanism will be electronic, through the Client Portal. The operation will be managed in U.S. dollars. The operation, barring any specific exception, will work with a financial planning period of six months. The preferred disbursement method will be advances of funds, although other methods may be used. The operation is expected to justify 80% of the cumulative balance pending justification. If flexibility is necessary, this will occur prior to an evaluation by the project team.
☒	Accounting, information systems, and reporting	The specific accounting rules to be followed are the International Public Sector Accounting Standards (IPSAS). The Integrated Financial Information System (UEPEX/SIAFI) will be the technology platform used for accounting purposes for the operation and accounts will be prepared on a cash basis. Reports will be generated by the UEPEX/SIAFI system. As a supplement to the policies and guidelines applicable to the operation, the program Operating Regulations with the documented definition of workflows and internal controls will be used.
☒	Internal control and internal audit	The internal audit role applied to the project will be established in the project Operations Manual and performed by the executing agency and supervised by the National Office for the Comprehensive Development of Internal Control (ONADICI) and the Supreme Audit Court (TSC). However, for purposes of the operation, the project auditor will conduct the audit.
☒	External control and financial reports	The borrower and/or the executing agency will select and contract external audit services in accordance with the terms of reference previously agreed upon between the borrower and/or the executing agency and the Bank. These will establish the type, timing, and scope of the review. The selected external auditor and audit rules to be applied will be acceptable to the Bank. Depending on the nature and risk of the operation, audited financial reports prepared by a Bank- or TSC-eligible firm will be required, subject to change over the course of the project based on the findings of the Bank's supervision. The type of financial report required to meet the financial information needs of the external audit in the operation is the audited financial report with a cutoff date and submission deadline of 120 days after the end of the annual fiscal periods. The cutoff date and submission deadline for the closing audited financial report will be 120 days after the scheduled date for the last disbursement.
☒	Financial supervision of the operation	The operation requires financial supervision by the Bank's fiduciary team. This team's responsibilities will also include onsite and desk reviews and support with a given frequency, subject to change during execution, which will consist of detailed reviews of the accounting and financial aspects of the project. The Bank may rely on the contracted auditing firm or the TSC for this supervision.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/24

Honduras. Loan ____/BL-HO to the Republic of Honduras
Program to Increase Flood Resilience in the
Sula Valley in Honduras

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Honduras, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Program to Increase Flood Resilience in the Sula Valley in Honduras. Such financing will be chargeable to the Bank's Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US$7,000,000, subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US$13,000,000, subject to financial terms and conditions applicable to loan operations financed from the Bank's regular program of OC resources ("Regular OC"), as indicated in the Project Summary of the Loan Proposal, and subject to the Special Contractual Conditions of said Project Summary.

(Adopted on _____ 2024)

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