Technical Cooperation Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Strengthening Climate Change and Sustainable Development sector knowledge
▪ TC Number:	RG-T4548
▪ Team Leader/Members:	Blackman, Allen (CSD/CSD) Team Leader; Garay Armoa, Pedro Vicente (CSD/CSD) Alternate Team Leader; Bonilla Merino Arturo Francisco (LEG/SGO); Gomez, Juan Carlos (CSD/CCS); Manzano, Osmel Enrique (CAN/CAN); Leyva Munoz, Cesar (CSD/CSD)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	26 Jul 2024.
▪ Beneficiary:	Latin-American and Caribbean Countries
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC SDP Window 2 - Sustainability(W2A)
▪ IDB Funding Requested:	US$200,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	24 months (execution period: 24 months)
▪ Required start date:	January 1st 2025
▪ Types of consultants:	Individuals
▪ Prepared by Unit:	CSD-Climate Change and Sustainable Development Sector
▪ Unit of Disbursement Responsibility:	CSD/CSD-Climate Change and Sustainable Development Sector
▪ TC included in Country Strategy:	No
▪ TC included in CPD:	No
▪ Alignment to the Update to the Institutional Strategy 2024-2030:	Productivity and innovation; Environmental sustainability

II. Objectives and Justification

2.1 Latin America and the Caribbean (LAC) confront three pressing problems related to natural systems: climate change, natural disasters, and natural resource degradation.

2.2 **Climate change**. Largely driven by emissions of greenhouse gases (GHG) from human activities like fossil fuel burning and land use change, climate change represents an array of adverse geophysical impacts. These include changes in temperature and precipitation, sea level rise, loss of ecosystem services provided by nature, and more frequent and intense storms, floods, and droughts (IPCC 2023). Annual global temperature anomalies (the difference between annual average temperature and the average over the last century) have risen by roughly 1°C the past 50 years and are on track to exceed 1.5°C in the next five years (WMO 2023). The geophysical effects of climate change, in turn, have exceptionally wide-ranging adverse socioeconomic effects. It substantially increases morbidity and premature mortality; depresses employment and both labor and agricultural productivity; slows

educational progress and skills development; endangers food security, infrastructure service provision, and financial stability; drains fiscal revenue; and ultimately significantly reduces income (IPCC 2023). The magnitude of these impacts is difficult to overstate. For instance, Hsiang (2010) found that a 1°C rise in the average annual temperature in Central America and the Caribbean—which likely already has occurred—leads to an estimated 2.5 percent reduction in the level of Gross Domestic Product (GDP).

2.3 **Disasters**. LAC is the second most disaster-prone region in the world (UNDRR 2023). Between 2000 and 2022, 190 million people in the region were affected by 1,534 disasters including 681 floods, 400 storms, 92 earthquakes, and 77 droughts. A variety of factors exacerbate the region's vulnerability to disasters including an abundance of coastal areas and islands, climate change (which as noted above increases the frequency and intensity of disasters), high rates of urbanization, widening inequality and poverty, significant migration, and weak disaster management driven by political and economic instability, fragility, conflict, and criminal violence.

2.4 **Natural resource degradation**. Blessed with plentiful and diverse natural resources, LAC is often referred to as a biodiversity superpower. However, degradation of the region's natural resources has now reached critical levels. The region's forests are rapidly disappearing along with the carbon sequestration, water purification, pollination, and other vital ecosystem services they supply. Between 2011 and 2020, LAC lost an average of 2.7 million hectares of forest each year, an area approximately the size of Haiti (FAO 2024). Biodiversity loss—mostly driven by habitat loss due to changes in land use and other human activity—has reached critical levels. From 1970 and 2018, the region's Living Planet Index, which tracks changes in the relative abundance of wild species populations, fell by 94 percent, by far the greatest decline of any region in the world (WWF 2022). Overexploitation of water is also widespread. For example, in Mexico, where groundwater abstraction for irrigation and domestic consumption has increased rapidly in recent decades; 102 of the 643 aquifers are overexploited and chronic shortages in Mexico City and other areas are now common (World Bank, 2022).

2.5 **Objective.** The broad objective of this TC is to strengthen the capacity of the Climate Change and Sustainable Development Sector of the IDB (CSD) to meet the mandate of the *IDB Strategy+* to conduct knowledge activities focused on climate change, natural disasters, and natural resource degradation**.** The specific objective is to hire two high-level consultants to conduct research on these three areas.

2.6 The TC is consistent with the *IDB Group Institutional Strategy: Transformation for Greater Scale and Impact* (CA-631). The operation is aligned with its objective of "*adressing climate change*" and its area of operational focus of "biodiversity, natural capital and climate action", as it will hire senior researchers to work in the areas of Biodiversity, Natural Capital, and Disaster Risk Management. Actions to address these three topics typically entail promoting productivity enhancing innovations such as electric vehicles, climate friendly agriculture, and nature-based solutions for disaster risk management.

2.7 The operation will contribute to the Corporate Results Framework 2020-2023 (GN-2727-12) (CRF). The Results Matrix indicators (IADB publications and dissemination workshops) will help to advance the CRF Country Development results level 1 indicators of government effectiveness (15), voice and accountability

(18); the level 2 indicators of households with improved access to water and sanitation (4), and emissions avoided (19); and the level 3 indicators of projects supporting climate change mitigation and/or adaptation (6), projects supporting institutional capacity and rule of law (9), and average downloads of IDBG publications (22).

2.8 The operation is also aligned with: (i) the IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (GN2609-1); (ii) the Climate Change Sector Framework Document (GN-2835-13); (iii) the Environment and Biodiversity Sector Framework Document (GN-2827-8); (iv) the Climate Change Action Plan 2021-2025; (v) the IDB Group Natural Capital and Biodiversity Mainstreaming Action Plan 2024-2025 (GN-3216-1); (vi) the IDB Group Disaster Risk Management Action Plan 2024-2025; and (vii) the objectives and pillars of the Ordinary Capital Strategic Development Program for Sustainability (OC-SDP for Sustainability) (GN-2819-14), in particular with the objectives of expanding the knowledge base on climate change mitigation, adaptation, and sustainable energy geared towards leveraging climate investment; and strengthening capacities to manage disaster risk and respond to emergencies stemming from natural disasters.

2.9 Additionally, this operation complements the IDB's ongoing work through more than 20 operations focused on climate change, disasters and natural resource degradation. These include for example, ATN/FR-17302-AR, 4363/OC-BH, BK-C1118, 4403/BL-BO,4403, ATN/FC-19789-BR, ATN/OC-17504-CH, ATN/PI-19369-CO, ATN/OC-18148-CR, ATN/OC-18843-DR, ATN/FC-20456-EC, 5191/MS-GU, ATN/OC-19242-GY, GRT/GN-17771-HO, ATN/ME-18064-JA, ATN/SX-18950-PE, ATN/JF-16701-PN, ATN/CN-18968-TT, and GRC/ME-19656-UR. It opens lines of communication and promotes a regional dialogue between the community of experts—including team leaders of these funded operations—the scientific community, and policy makers, to leverage the lessons learned to address knowledge gaps.

2.10 Finally, the operation is aligned with IDB Group sub-regional initiatives for Amazonia (Amazon Forever), the Caribbean (One Caribbean), and Central America (América en el Centro). These initiatives aim to boost integration and leverage synergies across countries in efforts to advance on a range of shared policy goals, including those related to climate change and environmental degradation.

III. Description of Activities/Components and Budget

3.1 **Component 1. Research on climate change and disaster risk management in LAC (US$100,000).** This component will finance hiring of a senior researcher—either a junior PhD (a "post-doc") or a senior MA with significant experience—either in CSD's Climate Change Division (CCS) or in the Department's planned new unit Disaster Risk Management unit. Priority research areas include: (i) the penetration of disaster risk insurance in LAC, in particular for housing and agriculture, policies to expand coverage, and the impacts of public insurance programs; (ii) the state of the art in probabilistic disaster risk modeling; (iii) existing empirical evidence about the effectiveness and efficiency of disaster risk reduction measures; (iv) climate finance demand and supply; (v) governance, institutional changes and policy for LAC in climate mitigation and adaptation; and (vi) climate data needed to assess climate risks and for data modeling, analysis and use. The researcher will not be a current member of CCS or the Disaster Risk Management unit.

3.2 **Component 2. Research on biodiversity and natural capital in LAC (US$100,000).** This component will finance the hiring of a senior researcher —either a junior PhD (a "post-doc") or a senior MA with significant experience—in CSD's planned new Biodiversity and Natural Capital unit. Priority research topics include: (i) estimating the gap between the supply of and demand for funding for biodiversity conservation and restoration in LAC, and identifying mechanisms to bridge the gap; (ii) the knowledge agenda of the Biodiversity working group of the Platform of Finance Ministers of LAC, including on repurposing fiscal revenues from subsidy reform; and (iii) the role of conservation trust funds in the region, including recommendations for adjustment to the international Best Practice Standards for trust fund governance. The researcher will not be a current member of CCS or the Disaster Risk Management unit.

3.3 The timing for completion of Components 1 and 2 will be 24 months after the start of the operation. This timing will allow the consultant researcher to complete the proposed analysis and to write, revise and finalize their research outputs and dissemination activities.

3.4 The main output of this TC will be a set of IDB publications and dissemination workshops. The expected results of this TC include: (i) a broader knowledge base to inform the scientific community and decision makers; and (ii) strengthening existing network of stakeholders organized around the topic of climate and natural disasters in LAC. The consultants supported by this TC would accomplish result (ii) by generating and disseminating new knowledge products, which in turn would entail liaising with new and existing stakeholders.

3.5 The total estimated cost of this operation is US$200,000, which will be financed with resources from Window 2 (W2A - Sustainability) of the Ordinary Capital Strategic Development Program (OC SDP).

Indicative Budget (US$)

Activity/Component Description	IDB Funding (W2A)	Total
Component 1.Research on climate change and disaster risk management	100,000	100,000
Component 2. Research on biodiversity and natural capital	100,000	100,000
Total	200,000	200,000

IV. Executing Agency and Execution Structure

4.1 This operation will be executed by the IDB. The Climate Change and Sustainable Development Department's (CSD) Front Office will be responsible for the preparation, execution, and supervision of Components 1 and 2 following the policies established by the Bank. The team leader (Allen Blackman, Economics Principal Advisor for CSD) will be responsible for the execution and monitoring of the operation. He will supervise the submission of deliverables and track that these products are delivered according to the project's planned timeline with the support of the Alternate Team Leader and the team members of the project.

4.2 The principal reason for this execution structure is CSD's research has a regional scope and is planned, managed, implemented, and disseminated by the IDB. Also,

the activities supported by the TC will generate synergies and complementarities with Bank operations and research. Finally, the policy implications from the research supported by this TC will be informative for other countries. Execution of the project by the IDB will facilitate the communication and dissemination of the results across countries.

4.3 All procurement to be executed under this Technical Cooperation have been included in the Procurement Plan (Annex IV) and will be hired in compliance with the applicable Bank policies and regulations as follows: (a) Hiring of individual consultants, as established in the regulation on Complementary Workforce (AM-650) and (b) Contracting of services provided by consulting firms in accordance with the Corporate procurement Policy (GN-2303-33) and its Guidelines.

V. Project Risks and Issues

5.1 One risk to successful and timely execution of the project is that CSD is not able to identify and/or hire researchers at the planned level or with expertise in the target areas. To minimize that risk, we will advertise these positions broadly and conduct an extensive interview process. A second risk is that the consultants will not perform as anticipated. To minimize that risk, we will ensure that they work closely with senior staff, have well-defined research agendas, and are tasked with producing specific deliverables by set deadlines.

VI. Exceptions to Bank policy

6.1 No exceptions to Bank policy are anticipated.

VII. Environmental And Social Aspects

7.1 This Technical Cooperation is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes

Results Matrix_93705.pdf

Terms of Reference_56338.pdf

Procurement Plan_26163.pdf

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