UN Multi-Partner Trust Fund Office

General Information

Fund	MPTF_00300: Infrastructure Resilience Accelerator Fund (IRAF)
FMP Record	MPTF_00300_00024: Strengthening Data Management Foundation for Disaster Risk Preparedness in Belize
MPTFO Project Id	00141035
Start Date	15-Apr-2024
End Date	15-Apr-2026

Applicants

Status	Contact Type	Name	e-mail	Position	Telephone
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Signature Process	Role	Name of Organization	Name	User Email
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Project Manager	Johanna Noble	adaptationofficer.cc@environment.gov.bz	Adaptation Officer, National Climate Change Office		

Description

The main objective of the project is to increase the use of data and information in adaptation planning and disaster risk management. The project will support the capacitation of the Ministry of Natural Resources, specifically the Lands and Survey Department and other key government department[1] to use climate related data sets (i.e., building footprints maps and satellite imagery) in the decision making and planning process. This will allow for (1) the use of highly granular building and infrastructure data to inform evidenced based decisions in real time and (2) guide governance of sustainable urban land management at all levels and scales and (3) enhance disaster preparedness, response, and recovery capacities. Furthermore, the capacity of relevant national staff and institutions, in data processing and collection, analysis, data sharing and utilizing data for decision making will be strengthened through a set of targeted capacity and awareness building initiatives .

[1] Ministry of Public Utilities, Energy and Logistics, Ministry of Agriculture, Food Security and Enterprise, Ministry of Housing / Central Building Authority, Ministry of Infrastructure Development, Ministry of Rural Development, Ministry of Human Development, Ministry of Health and Wellness, Ministry of Education, Ministry of Tourism, Department of the Environment

Universal Markers	**Gender Equality Marker**	**Risk**		
	• GEM1 - The Key Activity contributes to GEWE in a limited way	• Low Risk		
Fund Specific Markers	**THEMATIC FOCUS**	**Themes** • STRENGTHENING DATA FOR DECISION MAKING INCLUDING IMPACT BASED EARLY WARNING SYSTEM		
	GEOGRAPHICAL WINDOWS	**Geographical Funding windows** • Small Island Developing States (IRIS)		
	SECTORAL FOCUS	**PRIMARY SECTORS IN FOCUS** • Telecommunication (including MHEWS)		
	ELIGIBILITY TO RECEIVE IRAF FUNDING	**ELIGIBILITY CRITERIA - SELECT RELEVANT CRITERIA APPLYING TO YOUR ORGANIZATION -ATTENTION UN ORGANIZATIONS : ONLY SELECT n/a)** • Prevention of Sexual Exploitation, Harassment and Abuse (PSEAH): Your organization does not yet have such policy and/or established procedures, or is in the process of developing them, and may require support to establish these.		
Geographical Scope	**Geographical Scope**	**Name of the Region**	**Region(s)**	**Country**
	• Country		• Americas	• Belize
Participating Organizations and their Implementing Partners	**UN Participating Organizations**	**Government/ Multilateral/ NGO/ Other**	**New Entities**	**Implementing Partners**
		• CCCCC - Caribbean Community Climate Change Centre		

Programme and Project Cost	**Participating Organization**	**Amount (in USD)**	**Comments**
	Budget Requested		
	CCCCC	$499,929.00	total project cost
	Total Budget Requested	**$499,929.00**	
	Tranches		

Tranche 1		Tranche 2		Tranche 3	
CCCCC (30%)	$149,978.70	CCCCC (50%)	$249,964.50	CCCCC (20%)	$99,985.80
Total:	**$149,978.70**	**Total:**	**$249,964.50**	**Total:**	**$99,985.80**

	Other Sources (Parallel Funding)	
	Total	**$499,929.00**

Thematic Keywords	• Early warning systems • Recovery and Build Back Better	
Programme Duration	**Anticipated Start Date**	15-Apr-2024
	Duration (In months)	24
	Anticipated End Date	15-Apr-2026

Narratives

Title	Text

Qualification of the Participating Organization: Mission & mandate	CCCCC Mission Through its role as a Centre of Excellence, the Centre will support the people of the Caribbean as they address the impact of climate variability and change on all aspects of economic development through the provision of timely forecasts and analyses of potentially hazardous impacts of both natural and man-induced climatic changes on the environment, and the development of special programmes which create opportunities for sustainable development. CCCCC Mandate The Centre's two mandate establish the Centre are: 1. To coordinate the regional response to climate change and the region's efforts to manage and adapt to the impacts of climate change 2. To develop a financial mechanism to support its operations
Qualification of the Participating Organization: Organization geographical coverage	The Caribbean Community Climate Change Centre is mandated by the CARICOM Heads of Government to lead the regions response to managing and adapting to climate change in addition to serving as the main repository for regional and national information on climate change. The Centre is the only regional institution established specifically to address the impacts of Climate Change. The Caribbean Community Climate Change Centre coordinates the Caribbean region’s response to climate change. Officially opened in August 2005, the Centre is the key node for information on climate change issues and on the region’s response to managing and adapting to climate change in the Caribbean.
Qualification of the Participating Organization: Thematic expertise relevant to the project	The Centre's relevance is based on its niche position as the only climate change Centre of Excellence in the Caribbean region. The Centre is the go-to regional institution on climate change matters. The CCCCC is proven CARICOM delivery partner with expertise, experience and capacity to mobilize climate finance at scale to improve the Regions climate resilience. Specific to this project the centre has support projects with a focus on climate information, data, training and education, data and climate modeling services essential to its mainstreaming functions. Most of these projects are produces and disseminated though governmental and non-governmental partners.

Qualification of the Participating Organization: Human Resources	Typically, four key personnel, namely a Project Management Lead, a Procurement Officer, a Financial Officer and a Project Administrative Assistant, are core to the day-to-day implementation of a project/programme. The Project Manager will have day-to-day responsibility for the project, which includes ensuring that the TORs are developed and liaising with internal stakeholders such as the Procurement Unit and Finance Unit to procure and pay for goods and services. The Project Manager is also responsible for monitoring consultants and vendors to ensure that good services are being delivered in accordance with their contracts and work closely with the executing partners in each country and other critical stakeholders to garner the necessary information for effective decision making, implementation, monitoring, and reporting. The Project Manager, in collaboration with the Finance Unit, prepares quarterly and annual reports or as needed by the donor. The Project Administrative Assistant (consultant) is essential for supporting the Project Manager in carrying out her/his function including the preparation of payment memo, procurement requisition, filing and stakeholder engagement. Supporting the staff, are other technical staff Members including Project Development Officers, Communication Specialist and Scientific, Policy and Legal Officers, who are required to aid in the development of terms of references (TORs) and review outputs/deliverables periodically or as is needed. It is important to note that Consultants will be engaged to execute the approved project activities when the scope of work is beyond the expertise/capacity or time constraints of the CCCCC staff. Example, so long as there are no time constraints, the CCCCC utilises its existing project management capacity, which has experience in managing climate change projects and unstands the CCCCC existing systems for procurement and financial management. Further, the CCCCC uses a time and activity tracking system to monitor the amount of time spent and the type of activities performed in the execution of the project by its staff members. Costs are categorized into three cost categories: 1. Direct Operational Costs (DOC) are costs relating to specific technical inputs required to deliver an activity/component; 2. Direct Support Costs (DSC) are the costs of those services that can be attributed to supporting an overall requirement for the execution and management of a project/programme; and, 3. Indirect Support Costs (ISC) are costs that support the execution of the delivery of activities but cannot be directly associated to their implementation. Professional service fees associated with direct operational costs are service costs relating to specific technical inputs required to deliver an activity/component. The cost associated with these specific professional and technical inputs are priced using prevailing market rates for works, goods and services procured as reflected in the Centre's procurement manual and guidelines. Some indicative professional services include inter alia: 1. Support for the execution of stakeholder consultations 2. Concept note and funding proposal development (including studies, research, budget, logic frame development, implementation plan etc.) 3. Production and delivery of knowledge and records management system 4. Support for deliverables/outputs such as reports, modelling scenarios, visibility and information products, other goods, policy and legal instruments, policy brief 5. Climate data provision associated with commercial activities, 6. Outreach, branding, marking, products, and services uploading to the Regional Clearing House. 7. Capacity building exercises, including but not limited to training (in person or Virtual) in project/programme subject matter and shall include tools and methods. 8. Provision of LiDAR mapping services

Qualification of the Participating Organization: Portfolio analysis	The CCCCC has more than 15 years of resource mobilization and program/project implementation experience developing and implementing adaptation and mitigation initiatives in the Caribbean region in pursuit of its officially conferred mandate of coordinating the region's response to climate change. CCCCC has an established and proven track-record in climate change planning and management in the Caribbean with well-established and strong operational links and networks regionally, internationally and at the national level in the Caribbean countries. Thus, CCCCC has the capacity, the mandate and is uniquely placed to ensure effective and efficient project delivery and to guarantee the sustainability of project outcomes and impacts. CCCCC has and continues to implement substantial transformative climate change projects in the Caribbean, inclusive of the European Union Intra-ACP Global Climate Change Alliance (EU-GCCA) Project in the Caribbean, a Coastal Protection Project that was financed by the German Development Bank, and the United Kingdom Support for the Implementation Plan Project. Additionally, the Centre is one of the implementing agencies of the United Nations-Economic Commission for Latin America and the Caribbean's (UN-ECLAC's) Regional Economics of Climate Change Studies (RECCS) for the Caribbean, the Inter-American Development Bank (IDB) co-financed Caribbean Carbon Neutral Tourism Project (RG-T1640); and the Database Management System for a Regional Observing Network for Environmental Change in the Wider Caribbean (RG-T1813), and the Pilot Project on Climate Resilience (PPCR) Regional Component. CCCCC is therefore well placed to implement an initiative of this nature by virtue of its familiarity with the climate change landscape of the region, its role in spearheading CARICOM's response to climate change issues, the range and diversity of pertinent projects, projects, and capacity building initiatives that it has implemented previously, and the climate information network that it has contributed to establishing in the region. CCCCC is an Accredited Entity of the GCF since 2015 and is the only organization in the Caribbean region with a mandate from Caricom countries to spearhead the regions response to climate change. The Centre is also a Delivery Partner for the implementation of GCF Readiness and Preparatory Projects. To date the Centre has one GCF full project proposal valued at US$42.5 approved and is being implemented and approximately another US$12 million in Readiness and Preparatory Projects. These projects are being implemented in both the private and public sectors. CCCCC has and continues to partner with reputed organisations such as United States Agency for International Development (USAID), Green Climate Fund (GCF), the Caribbean Development Bank (CDB), United Nations Development Program (UNDP), and the European Union under its Global Climate Change Alliance (GCCA+) program, to execute climate change projects across the Caribbean Region. The CCCCC also has a LiDAR Unit is comprised of a Liaison Officer, which is responsible for the execution of the field activities related to the implementation of the survey activities. In addition, the Liaison Officer works closely with high level government officials and key stakeholders to in advancing the work of the LiDAR Unit, and the CCCCC, in addressing sustainable climate change adaptation initiatives and encouraging long-term use of the LiDAR data planning and decision making. Additionally, the CCCCC has in place a Framework Agreement with Leading Edge Geomatics (LEG), a Firm with over 40 years' experience providing aerial survey and geomatics services across North America, for the processing of topographic and bathymetric LiDAR data and GIS services in support of the CCCCC LiDAR Unit. This collaboration ensures detail processing, classification and GIS formatting are of a high standard and meet international best practices and standards.

Project justification: Needs assessment and Rationale (Word limit 1000)	The frequency and severity of climate change impacts are expected to increase in most countries. These impacts will increasingly disrupt critical infrastructure and the services they provide to people and their communities. For example, in coastal cities, the combination of more frequent coastal inundation (due to sea level rise and storm surge) and extreme rainfall/river flow events will make flooding more probable (high confidence).[1] Climate models project that impacts on human settlements and their infrastructure will rise rapidly, especially in places already exposed to high temperatures, along coastlines, or with low adaptive capacities (high confidence). [2] These impacts have increased in urban centers of all sizes, economic conditions, and site characteristics. As such, critical infrastructure such as residential and public buildings, and infrastructure related to transportation, water, sanitation, and energy systems have been compromised by extreme and slow-onset events, resulting in economic losses, disruptions of services and influences human well-being (high confidence). In the case of Small Island Developing States (SIDS), main settlements are located along the coast and with decades of high density coastal urban development, their population, buildings, are currently exposed to multiple climate change-related hazards and face key risks (high confidence). This is evidenced by the most recent Intergovernmental Panel on Climate Change (IPCC) Summary Report for Policy Makers (2021) which characterized climate change as "widespread, rapid and intensifying" and makes the point that "further urbanization together with more frequent hot extremes will increase the severity of heatwaves… increases mean and heavy precipitation over and/or downwind of cities… and resulting runoff intensity" and in coastal cities "the combination of more frequent extreme sea level events (due to sea level rise and storm surge) and extreme rainfall/ river flow events will make flooding more probable."[3]. ***Belize – Country Context*** Belize's Fourth National Communications to the United Nation Framework Convention on Climate Change (UNFCCC) explains that the country has two seasons which are wet (rainy) and dry. The wet season runs through June to November alongside the Atlantic hurricane season. About 60% of annual precipitation occurs during the wet season which begins in the south and moves up north where a subtropical climate occurs with an annual rainfall of 1500 mm (60 inches). Southward, the climate is more tropical, and experiences annual rainfall increases up to 3800 mm (150 inches)[4]. There is a cool transition period where rainfall declines and about 12 cold fronts cross the country. This occurs from November to February and is known to introduce the true dry season which goes through to April. Average maximum temperatures for Belize are approximately 85°F (29.5°C) while average minimum temperatures range in the low 70s (F°) (20°C). Daytime temperature range is greater inland while along the coast it is cooler due to sea breezes. Belize's mountainous regions are also cooler as it experiences a 5°F (-15 °C) fall in temperature per 1000 ft. Humidity for the country hovers around 80% throughout the year but is lower during the dry season (National Meteorological Service, n.d.). Since Belize is bordered on the east by the Caribbean Sea, which is a part of the Atlantic Basin, it is affected by the Atlantic hurricane season. The country's geographical location makes it especially vulnerable to tropical cyclones. Projected climate change impacts for Belize include a rise in temperature of between 2°C and 4°C by 2100, a 7-8% decrease in the length of the rainy season, a 6-8% increase in the length of the dry season and a 20% increase in the intensity of rainfall in very short periods. These changes make Belize very susceptible to the adverse impacts of climate change due to its long, low-lying coastline. Its over 1,060 small islands; fragile marine and terrestrial ecosystems are vulnerable to natural disasters. This is exacerbated by the country's high economic dependence on commodity exports and tourism; and the high concentration of Belize's population in coastal population centers.[5] Belize exhibits a pattern of urban growth that is characteristic of Caribbean SIDS -- rapid rates of urbanization; primate cities often located in vulnerable coastal locations, low-elevation coastal zones (LECZ, cities with high coastline residential densities, urban centers with high levels of informal urbanism, and port cities that are increasingly affected by coastal development which poses significant climate change vulnerability and risks in its urban sector.[6] There are nine (9) urban centers in Belize, two cities, Belize City and Belmopan; and seven (7) towns, San Pedro, Corozal Town, Orange Walk Town, San Ignacio and Santa Elena, Benque Viejo del Carmen, Dangriga and Punta Gorda. Five of these urban centers are coastal (Belize City, Corozal Town, Dangriga, Punta Gorda and San Pedro) with Belize City being a primate, port city while San Pedro is located offshore on the island of Ambergris Caye. The other four urban centers including the capital Belmopan are inland located along rivers on flood plains. Belize City is the largest municipality with a population of 66,083; Belmopan is the second largest municipality with a population of 26,906 followed by San Ignacio and Santa Elena (24, 231), San Pedro (22,755), Corozal Town (13,658), Orange Walk Town (13,660), Dangriga (10,803), Benque Viejo del Carmen (7,195) and Punta Gorda (6,664).[7] These nine urban centers also constitute the municipalities with administrative boundaries governed by a city or town council, headed by a mayor.

Belize's municipalities are the centers of commerce, administration, education, and health services as well as Tourism hubs. In coastal municipalities, public spaces such as beaches, parks and roads are at risk of erosion and sea-level rise while existing infrastructure such as seawalls are already being compromised. Public and private buildings including commercial and residential spaces, markets, educational institutions, health centers, churches, hotels, restaurants etc. are exposed to impacts from storms and hurricanes, flooding and erosion in all municipalities whether inland or coastal. Although the level of exposure and the potential impacts will vary, extreme events do/will disrupt economic activities such as tourism services and market vending and social services such education and healthcare in all municipalities as well as the services they provide to their district residents. All municipalities are already challenged with providing the necessary infrastructure such as drainage and streets particularly in rapidly expanding areas and with the threats posed by climate change.

Build the project rationale explaining why the project is needed and can contribute to address the problem. Explain how the project is relevant to national/regional/global development priorities, as relevant.

Belize's Urban Challenges – Adaptation Needs and Barriers

Belize's environments are highly complex, consisting of a broad spectrum of infrastructure systems (water and energy supply, sanitation and drainage, transport and telecommunication), services (including health care and emergency services), the built environment, and ecosystem services, all interdependent and interacting temporally and spatially, with other social, economic, and environmental stressors exacerbating urban risks at the individual, household and community level.[8] The extent of the impact of natural hazard events and climate change on Belize is influenced not only by the natural hazard and climate-change related events themselves, but also by a variety of physical, socio-cultural, economic, environmental and governance factors, all of which determine their exposure to climate variation, sensitivity and adaptive capacity. These include geographic and geomorphology setting, socio-economic status, and levels of access to basic services and resources, as well as the health of surrounding ecosystems, the availability of information, knowledge and skills on climate risks and the existing relations within the community and social support.

Most disasters affecting Belize are water related, hurricanes, floods, and droughts. Floods events in recent years includes the Hurricane Mitch (1998), Hurricane Keith (2000), Tropical Storm Chantal (2001), Hurricane Iris (2001), Hurricane Dean (2007), Tropical Storm Arthur (2008), Tropical Depression # 16 (2008), Hurricane Richard (2010), Hurricane Earl (2016), June 2017 Flash Flood, Hurricane Eta (2020) and Hurricane Lisa in late 2022. Since about 40.5% of the population lives in coastal areas there's a need to strengthen disaster preparedness and mitigation mechanisms for vulnerable coastal and inland populations, at the community level. Storm wave or storm surge, generates sea level increase that brings about greater waves and increases the impacts of wave action on the shoreline. The propagation of the waves towards the coast produces transformations in the wave fronts, mainly caused by the phenomena of refraction, diffraction, breakage, and dissipation by the bottom, and therefore, there are also alterations in the spatial distribution of the wave energy (see table below).

Scenarios and parameters for wave modeling[9]

Parameter	Scenarios (Waves)		
	Usual	Cold front	Storms
Significant height (Hs)	0.75 m	2 m	5.5 m
Peak period (Tp)	8 s	10 s	12 s
Directions	ENE, E, ESE, SE	NE, ENE, E, ESE	NE, E, SE

The risk to communities increases significantly when the return period and associated exceedance probability for tropical cyclones affecting Belize are considered. The most probable event simulated, corresponds to a tropical storm with a return period of 1.15 years and probability of occurrence of 87%

Return period and associated exceedance probability, for tropical cyclones that affect Belize, from the TS category to the H5 category of the Saffir-Simpson scale.

Category	Return period (Years)	Probability (%)
TS	1.15	87%
H1	2.17	46%
H2	3.92	26%
H3	6.14	16%
H4	11.66	9%
H5	27.13	4%

Satellite imagery, drone images, topographic maps, and other spatial data are needed to identify the extent to which different areas are exposed to natural hazards and climate change risks. Geographic information systems (GIS) and other spatial planning tools will help to depict the location of critical infrastructure, such as roads, residential houses, hotels and businesses and community assets. These tools also help to depict the sensitivity of buildings by producing footprints containing details about the attributes of various assets such as base elevation of buildings and homes, construction material, number of stories and types of family occupancy, which can be used for vulnerability assessment, such as determining the extent to which assets can withstand the impact of various hazard events.

Belize is unable to make down-scaled customized early warnings to urban areas due to lack of data on building stock. The impacts of extreme weather events on infrastructure, especially buildings, vary with the type, construction quality, construction material, elevation, etc. Unfortunately, Belize does not have this information on a digital form and hence, the early warnings and infrastructure resilience improvement investments are often made based on outdated or low-quality data. A perfect example of lack of information, leading to uninformed decision-making pertaining to resilient infrastructure is that of Hurricane Lisa in late 2022. Most of the damage caused by the hurricane are related to roof and building damages in vulnerable areas. This led to population displacement of our vulnerable population. Due to lack of data to highlight the building types and location before the disaster, the government couldn't pre-determine the level of impact that would affect its population nor the level of impact it would cause to most structures. If this dataset was already captured, the country would have been able to inform the decision makers that the population within certain areas would be greatly affected and would lead to displacement. Still without this data these individuals will be allowed to rebuild within the same areas and likely able to build the same structure type, making them once again susceptible to the same circumstances. This cycle is only present without data to provide evidence to force change. A comprehensive approach to climate resilience begins with collecting the right information and knowledge, and then moving on to planning and decision-making processes, strengthening capacity, engaging with a variety of stakeholders, and accessing finance. Recognising the diverse pathways to urban climate resilience the government of Belize is committed to enhancing its capacity to build resilience of its community and people to climate change.

As such, the main objective of the project is to increase the use of data and information in adaptation planning and disaster risk management. The project will support the capacitation of the Ministry of Natural Resources, specifically the Lands and Survey Department and other key government department[10] to use climate related data sets (i.e., building footprints maps and satellite imagery) in the decision making and planning process. This will allow for (1) the use of highly granular building and infrastructure data to inform evidenced based decisions in real time and (2) guide governance of sustainable urban land management at all levels and scales and (3) enhance disaster preparedness, response, and recovery capacities. Furthermore, the capacity of relevant national staff and institutions, in data processing and collection, analysis, data sharing and utilizing data for decision making will be strengthened through a set of targeted capacity and awareness building initiatives . Together the outcomes of this project will help Belize deliver on commitments highlighted in its NDC. These are as follows:

- The delivery of a national climate vulnerability assessment of infrastructure by 2022 (in achievement of the NDC Target to "Protect communities from damage caused by flooding and sea level rise through implementation of the Land Use Policy and supporting green and grey infrastructure")
- Pilot an early warning system for storm surges in 1 coastal district by 2023; and develop a National Monitoring System and Coastal Response Plan for storm surges and flooding by 2023 (NDC Target: "Strengthen the resilience of coastal communities by developing early warning system for storm surges by 2025")
- Develop a National Flood Early Warning System for flooding in place by 2025 (NDC Target: "Enhance the protection of water catchment (including groundwater resources) areas and make improvements to the management and maintenance of existing water supply systems")

	[1] IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. In Press. [2] IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press. [4] National Meteorological Service, Source: https://geology.com/world/belize-satellite-image.shtml. [5] GOB. 2015. A National Climate Change Policy, Strategy and Action Plan to Address Climate Change in Belize [6] Mycoo M., Donovan M., 2017: A Blue Urban Agenda: Adapting to Climate Change in the Coastal Cities of Caribbean and Pacific Small Island Developing States. Inter-American Development Bank (IDB) [7] SIB, 2021; Belize Postcensal Population Estimates, 2010 to 2021 - Major Administrative Areas. Retrieved from: http://sib.org.bz/statistics/population/ [8] IPCC 2022 Summary Report for Policy Makers @ p. 25 [9] Spectral waves were propagated, using a TMA type frequency spectrum (Texel Marsen Arsloe) (Bouws et al., 1985), which is applicable in areas near the coast where the depths are shallow, and the waves are affected by the bottom, and it is defined from a JONSWAP spectrum [10] Ministry of Public Utilities, Energy and Logistics, Ministry of Agriculture, Food Security and Enterprise, Ministry of Housing / Central Building Authority, Ministry of Infrastructure Development, Ministry of Rural Development, Ministry of Human Development, Ministry of Health and Wellness, Ministry of Education, Ministry of Tourism, Department of the Environment
Project Goal (Word limit 100)	
Project Objectives (Word limit 100)	
Project Key deliverables (Word limit 250)	
Project Approach and Methodology (Word limit 1000)	

Project Expected Impacts (Word limit 500)	The effects of climate change have disrupted supply chains, and incurred costs associated with rebuilding or repairing physical assets, such as buildings and transport infrastructure. However, due inadequate data collection and management system the government of Belize needs to improve its capacity to keep up with growing populations and economic pressures, and threats from climate change. This project aims at increasing disaster risk preparedness and response through enhancing national capacities to plan for and manage the climate change impacts on critical infrastructure in Belize's rural and urban spaces. The project will increase the capacity of selected government department and ministries through three main outputs; (1) Improved national data sets of building footprints in coastal zones for informing policy and planning in coastal area (2) Enhanced capacity and tools to support adaptation planning and strengthen disaster risk management and (3) Gender training conducted with key stakeholders supporting resilience building in communities. The provision of comprehensive and real-time data will allow the relevant authorities to monitor events as they unfold, understand how demand patterns are changing and respond with faster and lower-cost solutions. As such output 1 and 2 provide a solid basis to help strengthen climate resilience of the Ministry of Natural Resources and communities they serve. In addition, capacity building and outreach initiatives, targeting representatives from at least 40 people from across 10 governmental ministries and departments will accompany and compliment the improved data sets. Together, these activities will not only provide new opportunities to collect and update data, but also to analyze and extract actionable insights that can inform decisions. Furthermore, realization Output 2 and 3 will lead to a comprehensive and longer-term approach to development and guide the spatial, social, economic, and cultural development communities. Integrating the principles of climate resilience within development planning regimes will ensure that different approaches to community development are considered. Therefore, stronger democratic values, security and social inclusion, will be realized as co-benefits to reduce exposure and vulnerability to climate change. Climate resilience will be strengthened only when the individuals and institutions charged with managing cities have the proper capacity. As described above the project will take a gender sensitive approach to build resilience in a broad range of stakeholders. It is estimated that the project will benefit 400 directly and approximately 2,400 indirectly. Alignment with IRIS Outputs. The proposed project is aligned with the outcomes 1 and 2 of the IRIS initiative, namely: ● Improved resilience of SIDS infrastructure to climate change and disaster risks In line with Strategic Interventions 1 and 2, the project aims to support post-disaster assessments of critical infrastructure for improved recovery and reconstruction by improving the data collection and national response capacity, as well as the overall improvement of the quality of housing data and the quantification of impacts of flooding, storm surge, and wind damage on the housing sector. Furthermore, the improved national dataset will directly support the delivery of a national climate vulnerability assessment of infrastructure, as required under the updated NDC and implementation plan. It will also support the development of national early warning systems for flooding and storm surge, also NDC implementation requirements, by providing national decision-makers with geographic information on the most vulnerable housing infrastructure and populations. The data can also be utilized for the updating of the National Climate Resilience Infrastructure Plan, another national NDC commitment, by targeted upgrading of the most vulnerable infrastructure (thereby supporting the implementation of an integrated resilience strategy for infrastructure development). ● Strengthened knowledge and partnerships for integrating resilience in SIDS infrastructure. Strategic Intervention 5 of the IRIS involves capacity development through, among other things, vulnerability and risk assessment resources and the development of strategic infrastructure investment plans. The current activity will support each of these strategic activities, as mentioned in Outcome 1. Through the project, peer and partner networking opportunities are expected with national and local stakeholders and regional partners (also covered under Strategic Intervention 6), and the Coalition for Disaster Resilient Infrastructure and other technical experts.

Project Alignment/Complementarity with Global, Regional & National Commitments (Word limit 500)	Contribution to Samoa Pathway and Sendai Framework for Disaster Risk Reduction The SAMOA Pathway represents ambitious commitments made by 115 SIDS leaders at the Third International Conference on SIDS held in Apia, September 2014. The SAMOA Pathway makes linkages between commitments focused on sustainable energy, natural resource management, an ocean based and green economy approach and partnerships, thereby providing a holistic view on adaptation measures for SIDS. The project will contribute to 2 main outcomes for the SAMOA pathway. (1) The activities will take targeted action to improve the use of data for decision-making related to climate change adaptation and disaster risk management. (2) the project will also contribute to the area of Gender Equality and Women's Empowerment. All activities implemented will be done in a gender inclusive manner. This includes consultations, capacity building initiatives and the collection of gender sensitive data to inform decision making.
Project Contribution to the Sendai Framework for Disaster Risk Reduction targets (Word limit 500)	On the other hand, the Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks: (i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; (iii) Investing in disaster reduction for resilience and; (iv) Enhancing disaster preparedness for effective response, and recovery, rehabilitation and reconstruction. The outcomes of this project contribute to all 7 target areas of the framework. The proposed project will collect data and information and build capacities in key areas to better understand and manage the impact of related disasters. Collecting and interpreting data sets related to development patterns and critical infrastructure is the foundation to achieving all seven targets of the Sendai Framework.

Project Gender Equality and Social Inclusion (GESI) plan (Word limit 500)	The ultimate goal of gender mainstreaming is to transform unequal social and institutional structures into equal and just structures for both men and women (Dunn 2012). This requires the full participation of both groups (especially women) in the planning stage of projects particularly at the community level. Gender mainstreaming is achieved by pursuing actions that lead to gender equality and gender equity. Gender analysis is a useful tool to identify points of intervention in the project cycle at which existing or potential disparities can be compensated for/reduced or eliminated. Climatic upheavals affect women and girls disproportionately, due to a mix of socio-economic and socio-cultural determinants such as disparities in land rights and assets and access to financing for climate resilient upgrades. While women are more likely than men to lead marine and terrestrial conservation organizations in the Caribbean, there is skepticism in the region that women and men have different vulnerabilities to the effects of climate change, and thus whether efforts to mainstream gender into climate change adaptation and mitigation, and disaster risk management (DRM) are required. Furthermore, data related to DRM, environment and climate change rarely accounts for and/or considers gender and social inclusion. Belize has a National Gender Policy and a National Climate Change Gender Action Plan 2022-2027. The guiding principles of National Policy are aligned with Belize's international and national commitments to gender equality and equity. Two of the guiding principles that are important for this project include: • Gender Equality: State policies, regulations and programmes should explicitly aim to identify and eliminate gender-based discrimination in the allocation of resources, benefits, or access to services. This includes a women and men's right to equality of opportunity, of access, and/or of outcomes. • Gender Mainstreaming: Ensure that development actors and practitioners do not assume that men and women are all the same, actors and practitioners must engage in evidence-based policy making that mainstreams a gender perspective into all stages of national policies, regulations and programmes. Further, the activities, particularly 3.1 and 3.2, of this project directly related to support activities envisioned as part Belize's National Climate Change Gender Action Plan 2022-2027. Through a human-rights based and transformative feminist approach, the project aims to prioritize the participation of women in project administration and decision-making, as well as target at least 50% participation of women in all project activities, including consultation and training sessions. All training and capacity building activities related to increased knowledge and awareness of women and men's different vulnerabilities to the impacts of climate change, contributing toward a space in which gender equality and consideration of vulnerabilities is better mainstreamed into environment, climate change and disaster risk response policies, plans and programming. This will create great opportunities for inclusive, transformative and gender-responsive results for sustainable changes. Activities 1.6, 2.2, 2.3 and 3.2 include training and capacity building to improve the knowledge base and understanding of the varying vulnerabilities of men and women as a consequence of climate change. Beside mainstreaming gender consideration through training, Output 3 will deliver guidelines for mainstreaming gender and other social considerations into plans, strategies and projects/programmes related to infrastructure projects. It is notable that women representation in the construction and infrastructure industry is less than men. Therefore, it is important to identify strategies for greater inclusion of vulnerable groups in delivering projects/programmes but also ensuring the outcomes and outputs of those projects/programmes are equitably distributed. It is also important to note that this project will support SDG targets 5.1 "End all forms of discrimination against all women and girls everywhere" and 5.5 "Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life". Further, CCCCC has a Gender Policy and Action Plan 2021-2026. The Gender Policy and Action Plan seeks to promote climate change actions that advance gender equality. Built on international best practice and principles but is also grounded in the reality of Caribbean Small Island Developing States, this policy recognizes the importance of systemic gender mainstreaming in climate change actions to ensure the sustainability of climate change interventions for every citizen of CARICOM Member States, including Belize. It puts forward policy direction that guides the work of the Centre to ensure that social and gender co-benefits are derived from its climate change interventions and the deleterious impacts of climate change are avoided. The policy speaks to applicability both at the operational level of the organization and with regards to the Centre's climate investments. To this end, members of the Centre's Programme Development and Management Unit (PDMU) are expected to have a general understanding of gender mainstreaming in their work and demonstrate commitment to gender equality in their work. The PDMU is complemented with in-house Environment and Social and Gender Experts. The Centre is cognizant of the need to sensitize.

	That said, the CCCCC will also ensure gender and social inclusion considerations are mainstreamed as much as possible into the execution of the project activities. All activities will adhere to the CCCCC's Gender Policy and environmental and social safeguards, which includes consideration of the most vulnerable peoples and a mechanism to adhere to address any grievance that may arise.
Project Sustainability strategy (Word limit 500)	Project sustainability will be accomplished through (i) the integration of all project outputs with the work programme of the Land and Survey department in the Ministry of Natural Resources, (ii) country ownership and (iii) capacity building. The project is fully owned by the Government of Belize and derives from needs that have been assessed by the Ministry of Natural Resource. The proposed project has been developed via a participatory and consultative process with the inputs of all relevant entities, and stakeholders. During the implementation of the project, those discussions will continue via regular consultative sessions with key stallholders and project beneficiaries. The Government of Belize has committed to ensuring that policymaking and development planning is evidenced based and informed by the appropriate data at the national and sub-national level. This will be accompanied by the maintenance of all outputs by the project which will be added to the work programme of the Lands and Survey Department. The data will also be used by the Government's Meteorology and Hydrology departments in partnership with the National Emergency Management Organisation who has responsibility for risk management in Belize. In addition, capacity building is a key aspect to address the issue of sustainability. The relevant government agencies will benefit from capacity building actions that will ensure the socialization of processes initiated by the project. Project Management The Caribbean Community Climate Centre (CCCCC) CCCCC is responsible for the overall execution of the activities and for timely achievement of project deliverables. This includes the recruitment and selection of consultants, providing financial and technical oversight, technical review of outputs, and monitoring, reporting and evaluation of the project. The CCCCC will be responsible for the implementation of this grant. The CCCCC will carry out all fiduciary and financial management, procurement of goods and services, and monitoring and reporting tasks in accordance with the CCCCC's policies and procedures. The CCCCC will also ensure gender and social inclusion considerations are mainstreamed into the execution of the project activities where possible. All activities will adhere to the CCCCC's environmental and social safeguards, which includes a mechanism to address any grievance that may arise. The CCCCC will be guided by the National Climate Change Office in the Ministry of Sustainable Development, Climate Change and Disaster Risk Management and Lands and Survey Department in the Ministry of Natural Resources. The CCCCC will also coordinate and communicate with the other relevant government ministries for their input and guidance during the delivery of project activities.
Project Implementation (Word Limit 500)	The Caribbean Community Climate Centre (CCCCC) CCCCC is responsible for the overall execution of the activities and for timely achievement of project deliverables. This includes the recruitment and selection of consultants, providing financial and technical oversight, technical review of outputs, and monitoring, reporting and evaluation of the project. The CCCCC will be responsible for the implementation of this grant. The CCCCC will carry out all fiduciary and financial management, procurement of goods and services, and monitoring and reporting tasks in accordance with the CCCCC's policies and procedures. The CCCCC will also ensure gender and social inclusion considerations are mainstreamed into the execution of the project activities where possible. All activities will adhere to the CCCCC's environmental and social safeguards, which includes a mechanism to address any grievance that may arise.
Project Timeline (Word Limit 500)	The project will be implemented over a 24-month period. Kindly see attached the project implementation plan in excel.

Project Procurement plan	5.2 Procurement Plan For goods, services, and consultancies to be procured, please list the items, descriptions in relation to the activities in Section 3, estimated cost, procurement method, relevant threshold, and the estimated dates. Please include the procurement plan for at least the first tranche of disbursement requested below and provide a full procurement plan for the entire duration of the implementation period if available at this stage.

Item	Item Description	Estimated Cost (US$)	Procurement Method	Thresholds (Min-Max monetary value for which indicated procurement method must be used)	Estimated Start Date	Projected Contracting Date
Goods and Non-Consulting Services						

High resolution geo-spatial and elevation data	Municipalities/Villages (KM square) to support activity 1.1	$ 140,000.000	Invitation to Quote (ITQ)	≤50,000 (items equal to or less than threshold)	M1	M5																									
Soft/hardware required to process	Soft/hardware required to support ground validation of data and post-disaster management to support activity 1.2	$ 30,000.000	Invitation to Quote (ITQ)	≤50,000 (items equal to or less than threshold)	M1	M5																									

Soft/hardware required to process	Soft/hardware required to process geo-spatial and elevation data: to support activity 1.4	$ 30,000.000	Invitation to Quote (ITQ)	≤50,000 (items equal to or less than threshold)	M1	M5																		
Workshops/Trainings	Five (5) gender inclusive workshops/training events to support activities 1.6, 2.1, 2.2, 2.3 & 2.4	$ 25,000.000	Single-source selection (SSS)	≤50,000 (items equal to or less than threshold)	M5	M8																		

Stakeholder Consultations to support Activity 1.3 & 1.4.	Five (5) gender inclusive stakeholder consultation sessions	$ 5,000.000	Single-source selection (SSS)	≤50,000 (items equal to or less than threshold)	M4	M8																	

Audio-visual, promotional items and printing to support Activity 3.1	Lumpsum	$ 2,000.000	Single-source selection (SSS)	≤5,000 (items equal to or less than threshold)	M1	M6																									
Sub-Total (US$)		$ 232,000.000																													
Consultancy Services																															

Professional Services – Company/Individual Consultant	To support Activity 1.1: Acquire high resolution geo-spatial and elevation data of selected coastal zones and vulnerable communities.	$ 25,000.000	FBS/QBS	≤100,000 (items equal to or less than threshold)	M4	M5																			

			to support Activity 1.3: Develop digital footprint maps of buildings and major infrastructure in selected coastal zones and vulnerable communities.	$ 40,000.00			M5	M14														

			to support Activity 1.4: Improve the Information Technology and Communication of Belize National Spatial Data Infrastructure	$ 15,000.00			M6	M15														
			to support Activity 1.5: Integrate data and maps into Belize National Spatial Data Infrastructure	$ 17,000.00			M7	M15														

			to support Activity 1.6: Conduct training with staff and key users of data of Belize National Spatial Data Infrastructure	$ 10,000.00			M8	M15														

	to support Activity 2.1: Develop a storm surge model and hotspot/vulnerability maps for selected coastal zones	$ 45,000.00			M9	M15														

		CCCCC Staff time	to support Activity 2.2: Conduct training with key stakeholders (urban planners) from municipalities and other local government entities to use and apply statistical information and GIS to adaptation planning and strengthen disaster	$ 10,000.00	Single-source selection (SSS)	≤100,000 (items equal to or less than threshold)	M10	M19														

risk management.

			to support Activity 2.3: Conduct training with local government authorities and communities to deepen understanding of the link between climate change and coastal zone management including using nature-based soluti	$ 10,000.00			M11	M20															

	ons /eco-system based adaptation.																								

CCCCC Staff time	to support Activity 3.1: Develop guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure projects.	$ 14,000.00	Single-source selection (SSS)	≤100,000 (items equal to or less than threshold)	M1	M6														

	to support Activity 3.2: Conduct gender mainstreaming training with key stakeholders.	$5,000.00																		
CCCCC Staff time	Project Manager	$ 18,000.00	Single-source selection (SSS)	≤100,000 (items equal to or less than threshold)	M1	M22														
CCCCC Staff time	Procurement Officer	$ 7,500.00	Single-source selection (SSS)	≤100,000 (items equal to or less than threshold)	M1	M22														

CCCCCStaffftime	Finance Officer	$ 9,000.000	Single-source selection (SSS)	≤100,000 (items equal to or less than threshold)	M1	M22															
Professional Services – Companies/Firm/Individual Consultant	Audit Service	$ 3,000.000	FBS/QBS	≤ 100,000 (items equal to or less than threshold)	M22	M23															
Sub-Total (US$)		$ 228,5000.000																			

.+(1) Goods and Works: ICB: international competitive bidding; NCB: national competitive bidding; CPP: Community Participation in Procurement; (2) Consulting Firms: QCBS: quality and cost-based selection; QBS: quality-based selection; FBS: selection under a fixed budget; LCS: least-cost selection; CQS: selection based on the Consultant's Qualifications; SSS: single-source selection. Individual Consultants: NICQ: national individual Consultant selection based on qualifications; IICQ: international individual Consultant selection based on Qualifications.		M= Month after the project approval date

SDG Targets

Target	Description
Main Goals	
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	
TARGET_11.3	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
TARGET_11.5	11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
TARGET_11.b	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
Secondary Goals	
Goal 13. Take urgent action to combat climate change and its impacts2	
TARGET_13.1	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
TARGET_13.3	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
TARGET_13.b	13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

SDG Indicators

Indicator Code	Description
C110302	11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically
C110502	11.5.2 Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters
C200304	11.b.1 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030
C200304	13.1.2 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030
C130b01	13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate c

Contribution to SDGs

Participating Organization	% TARGET_11.5	% TARGET_13.1	% TARGET_11.3	% TARGET_11.b	% TARGET_13.b	% TARGET_13.3	% Total
CCCCC	20	15	20	20	15	10	100
Total contribution by target	**20**	**15**	**20**	**20**	**15**	**10**	
Project contribution to SDG by target	**20**	**15**	**20**	**20**	**15**	**10**	**100**

List of documents

Document	Document Type	Document Source	Document Abstract	Document Date	Classification	Featured	Status	Modified By	Modified On
Payment Notification - Infrastructure Resilience Accelerator Fund (IRAF)_ Funding of the First Tranche to CCCCC.msg	Other Docs	Project		07-Feb-2025	Internal	No	Draft	myasanda.hlaing@undp.org	07-Feb-2025 11:12:37 AM
Final_Second Trust Fund Management Committee Meeting Minutes_29082023.pdf	Other Docs	Project	IRAF TFMC Minutes with decision on CCCCC Belize project	24-Aug-2023	External	No	Finalized	sophie.baranes@undp.org	31-Jan-2025 9:31:38 AM
Belize prodoc PDF signed 10 may 2024.pdf	Pro Doc	Project	Final signed prodoc IRAF CCCCC Belize 2024	10-May-2024	Internal	No	Finalized	sophie.baranes@undp.org	31-Jan-2025 9:30:18 AM
Project specific reciprocity for project termination clause 5Cs 16.12.docx	Other Docs	Project	Reciprocity of project terminatio n clause	16-Dec-2024	Internal	No	Finalized	sophie.baranes@undp.org	16-Dec-2024 11:41:17 AM
Data Management Belize CCCC signature redacted May 2024.pdf	Pro Doc	Project	MPTF_00300_00024 - Strengthening Data Management Foundation for Disaster Risk Preparedness in Belize. May 2024.	10-May-2024	External	No	Finalized - Signature Redacted	sophie.baranes@undp.org	16-May-2024 10:36:27 AM
Budget and workplan (08.03.24).xlsx	Other Docs	Project Narrative	Implementation timeline inclusive of budget	08-Mar-2024	Internal	No	Finalized	cristina.bertarelli@undp.org	27-Mar-2024 12:34:00 PM

CDRI IRIS IPR 5Cs Belize_CCCCC.pdf	Other Docs	Project	Intellectual Property Rights clause between 5Cs and CDRI	12-Jan-2024	Internal	No	Finalized	sophie.baranes@undp.org	16-Jan-2024 10:40:35 AM
Timeline_Implementation Plan.xlsx	Other Docs	Project Narrative	Implementation Plan	16-Jun-2023	Internal	No	Finalized	rzuniga@caribbeanclimate.bz	16-Jun-2023 10:54:09 PM
doc00108020230616165830.pdf	Other Docs	Project	Endorsement Letter	16-Jun-2023	Internal	No	Finalized	rzuniga@caribbeanclimate.bz	16-Jun-2023 10:52:16 PM

Project Results

Outcome	Output	Description
IRAF OUTCOME 3 - Countries have increased access to knowledge and resources to increase the resilience and inclusivity of their existing and future critical infrastructure systems by 2030		CDRI offers direct technical assistance and grants to countries to develop and adopt enhanced disaster resilent and inclusive standards and practices for infrastructure system development through direct calls for proposals, access to relevant knowledge products and solutions meant to address specific geographical or sectoral vulnerabilities, and advisory services.
	Output 3.1 SIDS are better equipped with knowledge and resources to increase the resilience and inclusivity of their critical infrastructure systems	CDRI will support SIDS countries or regions with the development and adoption of DRI country systems, standards and practices, and access to knowledge products and advisory services that are locally relevant in SIDS contexts.
	Activities	
	No activities available.	
Project Outcome: Increase knowledge and spatial data to enhance resilience of critical infrastructure systems in Belize.		Belize will augment its spatial data collection and management systems in to enhance resilience of critical costal infrastructure in a gender inclusive manner,
	Project output 1 National data sets of building footprints in coastal zones.	Improved national data sets of building footprints in coastal zones for informing policy & planning in coastal area

Outcome	Output	Description			
	Activities				
	Title	**Description**	**Lead Participating Organization**	**Participating Organization**	**Other Organizations**
	Activity 1.1 Acquire high resolution satellite imagery of selected coastal zones and vulnerable communities.	Acquire high resolution satellite imagery of selected coastal zones and vulnerable communities.	CCCCC - Caribbean Community Climate Change Centre		
	Activity 1.2: Equip Ministry of Natural Resources through the Land and survey department to support ground truth, validation of data and post-disaster management.	Equip Ministry of Natural Resources through the Land and survey department to support ground truth, validation of data and post-disaster management.	CCCCC - Caribbean Community Climate Change Centre		
	Activity1.3: Develop digital footprint maps of buildings and major infrastructure in coastal communities and zones.	Develop digital footprint maps of buildings and major infrastructure in coastal communities and zones.	CCCCC - Caribbean Community Climate Change Centre		
	Activity 1.4: Improve the Information Technology and Communication of Belize National Spatial Data Infrastructure	Improve the Information Technology and Communication of Belize National Spatial Data Infrastructure	CCCCC - Caribbean Community Climate Change Centre		
	Activity 1.5: Integrate data and maps into Belize National Spatial Data Infrastructure	Integrate data and maps into Belize National Spatial Data Infrastructure	CCCCC - Caribbean Community Climate Change Centre		
	Activity 1.6: Conduct training with staff and key users of data of Belize National Spatial Data Infrastructure	Conduct training with staff and key users of data of Belize National Spatial Data Infrastructure	CCCCC - Caribbean Community Climate Change Centre		
	Project output 2: Capacity and tools to support adaptation planning & strengthening disaster risk management	Enhanced capacity and tools to support adaptation planning & strengthening disaster risk management			

Outcome	Output	Description			
	Activities				
	Title	**Description**	**Lead Participating Organization**	**Participating Organization**	**Other Organizations**
	Activity 2.1: Conduct technical studies/research on gaps in existing or new policy (inclusive of NDC), legislative and institutional frameworks governing urban land management, human	Conduct technical studies/research on gaps in existing or new policy (inclusive of NDC), legislative and institutional frameworks governing urban land management, human	CCCCC - Caribbean Community Climate Change Centre		
	Activity 2.2: Develop a storm surge model and hotspot/vulnerability maps for selected coastal zones	Develop a storm surge model and hotspot/vulnerability maps for selected coastal zones	CCCCC - Caribbean Community Climate Change Centre		
	Activity 2.3: Conduct training with key stakeholders (urban planners) from municipalities and other local government entities to use and apply statistical information and GIS to adaptation planning and strengthen disaster risk management	Conduct training with key stakeholders (urban planners) from municipalities and other local government entities to use and apply statistical information and GIS to adaptation planning and strengthen disaster risk management	CCCCC - Caribbean Community Climate Change Centre		
	Project output 3: Guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure	Gender consideration in resilience building in communities increased.			

Outcome	Output	Description
	Activities	

Title	Description	Lead Participating Organization	Participating Organization	Other Organizations
Activity 3.1: Develop guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure projects.	Develop guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure projects	CCCCC - Caribbean Community Climate Change Centre		
Activity 3.2: Conduct gender mainstreaming training with key stakeholders.	Conduct gender mainstreaming training with key stakeholders.	CCCCC - Caribbean Community Climate Change Centre		

Signature Indicators

Indicator Title	Component Title	Description	Means of Verification	Category	Cycle	Scope	Value Type	Baseline Value	Baseline Year	Target Value	Target Year	Linked Outcome / Output
No signature indicators available.												

Imported Fund Outcome / Output Indicators

Indicator Title	Component Title	Description	Means of Verification	Category	Cycle	Scope	Value Type	Baseline Value	Baseline Year	Target Value	Target Year	Linked Outcom / Outpu
IRAF OUTPUT 3.1 - INDICATOR 1 (SIDS)		Nb. of SIDS countries receiving technical support in DRI inclusive policies, plans, standards and/or enhanced DRI gender and age disaggregated and open-source datasets	CDRI IRAF annual report IRIS impact monitoring reports	Capacity	Yearly	Country	Number	0	2022	20 SIDS countries received technical support in DRI inclusive policies, plans, standards and/or enhanced DRI gender and age disaggregated and open-source datasets	2027	**Outcom : IRAF OUTCOM E 3 - Countrie have increase access to knowled ge and resource to increase the resilienc and inclusivit of their existing and future critical infrastru ture systems by 2030

Project Indicators

Indicator Title	Component Title	Description	Means of Verification	Category	Cycle	Scope	Value Type	Baseline Value	Baseline Year	Target Value	Target Year	L C /
Data collection		# of satellite imagery dataset generated for vulnerable communities.	Project report	Capacity	Yearly	Country	Number	0	1	2 data sets	2024	
	Activity 1.3	# of digital footprints data set for critical infrastructure developed.	Maps Project Report	Capacity	Yearly	Country	Number	o	1	2	2026	

Indicator Title	Component Title	Description	Means of Verification	Category	Cycle	Scope	Value Type	Baseline Value	Baseline Year	Target Value	Target Year	L C A
	Activity 1.4	cost of investments made in ITC technologies to improve the National Spatial Data Infrastructure.	Project Report	Investment	At closure	Country	Number	0	1	3	2026	
Capacity development		# of persons trained in gender inclusive Disaster Risk Reduction and climate change adaptation	workshop report	Capacity	Twice a year	Country	Number	0	1	60	2024	
	Activity 2.1	# of studies/research on urban land management policy.	Gap Assessment Report Project Report	Capacity	At closure	Country	Number	0	1	1	2016	
	Activity 3.1	# guiding documents for mainstreaming gender and other social consideration developed	Guidelines report	Capacity	At closure	Country	Number	0	2024	1	2026	

Risks

Event	Category	Level	Likelihood	Impact	Mitigating Measures	Risk Owner
Timely submission of disbursement request to be processed by the IRAF for the early receipt of funds.	• Operational	Medium	Unlikely	Moderate	The CCCCC will sign an MOU with the Government of Belize Framework meetings with the NCCO will be conducted immediately after project approval to sensitize with the implementation plan, establishment focal points, project team composition, development of TORs, and establish a coordinating mechanism to facilitate timely responses and clearances.	CCCCC
Inflationary pressures could result in the reduction in the purchasing power of the monies budgeted	• Financial	Medium	Possible	Moderate	To mitigate this risk, the CCCCC will hold the funding associated with this readiness in the US dollars. This eliminates how changes in the local currency could affect the funding for the project. To mitigate against inflation, the CCCCC will enter negotiation with consultants to match the funding available with the required activities	CCCCC

Overlaps in Project Activities with responsibilities of the National Climate Change Office and Lands and Survey Department	• Operational	Low	Unlikely	Moderate	Quarterly meetings will be carried out with the focal points and the CCCCC to ensure collaboration, avoidance of duplications	CCCCC/ Government of Belize
External Hazards and Climatic Natural Disasters,	• Social and Environmental	Medium	Possible	Moderate	To mitigate the potential impacts of climatic natural disasters, activities that will be implemented will take into consideration the hurricane season and as much as possible avoid implementing activities during these periods.	CCCCC/Government of Belize
timely identification of suitable consultant/consulting firm and limited capacity within relevant ministries	• Operational	Medium	Rare	Moderate	Implementation of parallel activities under the project will be used to compensate for time lapses. Also, the proposal will be shared with the relevant networks ahead of approval once it's clear on timeline after first official review. This allows for consultants and firms to plan accordingly.	CCCCC/ Government of Belize

Budget by UNSDG Categories: Over all

Budget Lines	CCCCC (7%) *	Total
1. Staff and other personnel	$32,500.00	$32,500.00
2. Supplies, Commodities, Materials	$0.00	$0.00
3. Equipment, Vehicles, and Furniture, incl. Depreciation	$0.00	$0.00
4. Contractual services	$423,000.00	$423,000.00
5. Travel	$0.00	$0.00
6. Transfers and Grants to Counterparts	$0.00	$0.00
7. General Operating and other Direct Costs	$11,723.36	$11,723.36
Project Costs Sub Total	**$467,223.36**	**$467,223.36**
8. Indirect Support Costs	$32,705.64	$32,705.64
Total	**$499,929.00**	**$499,929.00**

Budget by UNSDG Categories: 2024

Budget Lines	Fiscal Year *	Description	CCCCC (7%) *	Total
1. Staff and other personnel	2024	CCCCC Staff	$32,500.00	$32,500.00
2. Supplies, Commodities, Materials	2024		$0.00	$0.00
3. Equipment, Vehicles, and Furniture, incl. Depreciation	2024		$0.00	$0.00
4. Contractual services	2024		$423,000.00	$423,000.00
5. Travel	2024		$0.00	$0.00
6. Transfers and Grants to Counterparts	2024		$0.00	$0.00
7. General Operating and other Direct Costs	2024		$11,723.36	$11,723.36
Project Costs Sub Total			**$467,223.36**	**$467,223.36**

Budget Lines	Fiscal Year *	Description	CCCCC (7%) *	Total
8. Indirect Support Costs			$32,705.64	$32,705.64
Total			**$499,929.00**	**$499,929.00**

Budget by UNSDG Categories: 2025

Budget Lines	Fiscal Year *	Description	CCCCC (7%) *	Total
1. Staff and other personnel	2025		$0.00	$0.00
2. Supplies, Commodities, Materials	2025		$0.00	$0.00
3. Equipment, Vehicles, and Furniture, incl. Depreciation	2025		$0.00	$0.00
4. Contractual services	2025		$0.00	$0.00
5. Travel	2025		$0.00	$0.00
6. Transfers and Grants to Counterparts	2025		$0.00	$0.00
7. General Operating and other Direct Costs	2025		$0.00	$0.00
Project Costs Sub Total			**$0.00**	**$0.00**
8. Indirect Support Costs			$0.00	$0.00
Total			**$0.00**	**$0.00**

Budget by UNSDG Categories: 2026

Budget Lines	Fiscal Year *	Description	CCCCC (7%) *	Total
1. Staff and other personnel	2026		$0.00	$0.00
2. Supplies, Commodities, Materials	2026		$0.00	$0.00
3. Equipment, Vehicles, and Furniture, incl. Depreciation	2026		$0.00	$0.00
4. Contractual services	2026		$0.00	$0.00
5. Travel	2026		$0.00	$0.00
6. Transfers and Grants to Counterparts	2026		$0.00	$0.00
7. General Operating and other Direct Costs	2026		$0.00	$0.00
Project Costs Sub Total			**$0.00**	**$0.00**
8. Indirect Support Costs			$0.00	$0.00
Total			**$0.00**	**$0.00**

Performance-based Tranches Breakdown

Tranche			Total
Tranche 1	CCCCC (30%)	$149,978.70	$149,978.70
Tranche 2	CCCCC (50%)	$249,964.50	$249,964.50
Tranche 3	CCCCC (20%)	$99,985.80	$99,985.80
			$499,929.00

Results based budget

Outcome *	Output *	Activity *	Agency *	Budget (USD) *
Project Outcome: Increase knowledge and spatial data to enhance resilience of critical infrastructure systems in Belize.			**Sub Total**	**$499,929.00**
	Project output 1 National data sets of building footprints in coastal zones.		**Sub Total**	**$320,961.30**
		Activity 1.1 Acquire high resolution satellite imagery of selected coastal zones and vulnerable communities.	CCCCC (7%)	$131,993.55
		Activity 1.2: Equip Ministry of Natural Resources through the Land and survey department to support ground truth, validation of data and post-disaster management.	CCCCC (7%)	$36,993.55
		Activity1.3: Develop digital footprint maps of buildings and major infrastructure in coastal communities and zones.	CCCCC (7%)	$49,993.55
		Activity 1.4: Improve the Information Technology and Communication of Belize National Spatial Data Infrastructure	CCCCC (7%)	$53,993.55
		Activity 1.5: Integrate data and maps into Belize National Spatial Data Infrastructure	CCCCC (7%)	$23,993.55
		Activity 1.6: Conduct training with staff and key users of data of Belize National Spatial Data Infrastructure	CCCCC (7%)	$23,993.55
	Project output 2: Capacity and tools to support adaptation planning & strengthening disaster risk management		**Sub Total**	**$138,980.65**
		Activity 2.1: Conduct technical studies/research on gaps in existing or new policy (inclusive of NDC), legislative and institutional frameworks governing urban land management, human	CCCCC (7%)	$56,993.55
		Activity 2.2: Develop a storm surge model and hotspot/vulnerability maps for selected coastal zones	CCCCC (7%)	$60,993.55
		Activity 2.3: Conduct training with key stakeholders (urban planners) from municipalities and other local government entities to use and apply statistical information and GIS to adaptation planning and strengthen disaster risk management	CCCCC (7%)	$20,993.55
	Project output 3: Guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure		**Sub Total**	**$39,987.05**
		Activity 3.1: Develop guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure projects.	CCCCC (7%)	$22,993.55
		Activity 3.2: Conduct gender mainstreaming training with key stakeholders.	CCCCC (7%)	$16,993.50
Total				**$499,929.00**

Programme Outcome Costs

Outcome	Output	Activity	Implementing Agent	Time Frame								
				2024			2025				2026	
				2	3	4	1	2	3	4	1	2
Project Outcome: Increase knowledge and spatial data to enhance resilience of critical infrastructure systems in Belize.												
	Project output 1 National data sets of building footprints in coastal zones.											
		Activity 1.1 Acquire high resolution satellite imagery of selected coastal zones and vulnerable communities.										
			CCCCC	☐	☑	☑	☑	☑	☑	☐	☐	☐
		Activity 1.2: Equip Ministry of Natural Resources through the Land and survey department to support ground truth, validation of data and post-disaster management.										
			CCCCC	☐	☑	☑	☑	☑	☑	☐	☐	☐
		Activity1.3: Develop digital footprint maps of buildings and major infrastructure in coastal communities and zones.										
			CCCCC	☐	☐	☐	☑	☑	☑	☑	☐	☐

Outcome	Output	Activity	Implementing Agent	Time Frame								
				2024			2025				2026	
				2	3	4	1	2	3	4	1	2
		Activity 1.4: Improve the Information Technology and Communication of Belize National Spatial Data Infrastructure										
			CCCCC	☐	☐	☐	☐	☑	☑	☑	☐	☐
		Activity 1.5: Integrate data and maps into Belize National Spatial Data Infrastructure										
			CCCCC	☐	☐	☐	☐	☑	☑	☑	☐	☐
		Activity 1.6: Conduct training with staff and key users of data of Belize National Spatial Data Infrastructure										
			CCCCC	☐	☐	☐	☐	☐	☑	☑	☑	☐
	Project output 2: Capacity and tools to support adaptation planning & strengthening disaster risk management											
		Activity 2.1: Conduct technical studies/research on gaps in existing or new policy (inclusive of NDC), legislative and institutional frameworks governing urban land management, human										
			CCCCC	☐	☐	☐	☑	☑	☑	☑	☑	☐
		Activity 2.2: Develop a storm surge model and hotspot/vulnerability maps for selected coastal zones										
			CCCCC	☐	☐	☐	☐	☑	☑	☑	☑	☐
		Activity 2.3: Conduct training with key stakeholders (urban planners) from municipalities and other local government entities to use and apply statistical information and GIS to adaptation planning and strengthen disaster risk management										
			CCCCC	☐	☐	☐	☐	☐	☑	☑	☑	☐
	Project output 3: Guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure											
		Activity 3.1: Develop guidelines for mainstreaming gender and other social consideration into plans, strategies and projects/programmes related to infrastructure projects.										
			CCCCC	☐	☑	☑	☑	☐	☐	☐	☐	☐
		Activity 3.2: Conduct gender mainstreaming training with key stakeholders.										
			CCCCC	☐	☐	☐	☑	☑	☑	☑	☑	☐