



ADAPTATION FUND

## **REQUEST FOR ENHANCE DIRECT ACCESS PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND**

### *Building Community Resilience via Transformative Adaptation*

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat  
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# ENHANCE DIRECT ACCESS PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

## PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Enhance Direct Access Project
Country:	Belize
Title of Project/Programme:	Building Resilient Community via Transformative Adaptation
Type of Implementing Entity:	National Implementing Entity
Implementing Entity (NIE):	Protected Areas Conservation Trust (PACT)
Executing Entities:	Protected Areas Conservation Trust (PACT)
Amount of Financing Requested:	US\$ 5,000,000

### A. Project Background and Context:

#### ***The Problem:***

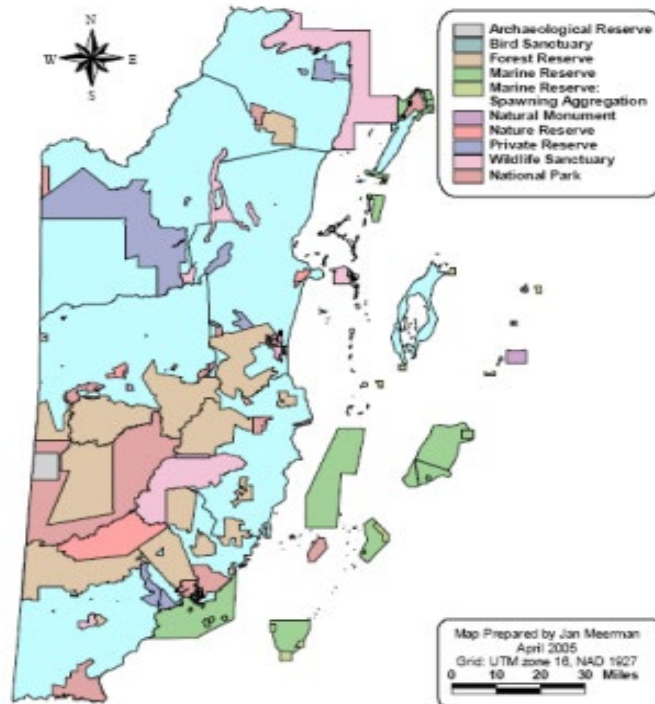
Since 2009, the climate projections on average temperature and rainfall in Belize for the period 2010-2100 showed that the country could expect an increase in the average annual temperatures to 3.5°C (6.4°F) over a 90- year period, and an average rainfall decrease of 100mm. Belize will not only experience a reduction in rainfall, but rainfall will become more intense over shorter periods.

Due to the country's geographical location, Belize is significantly exposed to the risk of rising sea levels and increasing frequency and intensity of tropical storms. Belize is also susceptible to predicted changes in weather events, including heavy, and consistent rainfall, and flooding, high intensity hurricanes, sea-level rises, increase in sea surface temperatures, ocean acidification, coral bleaching, and loss of ecosystems like littoral forest wildfires, drought, and changes in crop production and yields.

Belize's Risk Profile informs that the effects of tropical cyclones will lead to storm surges, loss of vegetation, flooding and habitat losses (IDB, 2020). Furthermore, Belize has a vulnerability score of 2.5 and ranks 9th on the Climate Change Vulnerability Index for Latin America and the Caribbean, scoring 10th on the adaptive capacity index (CAF, 2014). Even as Belize is implementing climate mitigation and adaptation interventions, the magnitude and frequency of climate events threatens already vulnerable communities and households and their livelihood options. These scores affirm that the effects of climate change and variability will bear significant effect on Belize's natural resources and ecological systems to directly threaten the resilience of Belizean communities and households.

Owing to Belize’s extensive dependence on natural resources, climate change and variability will jeopardise the economic and social conditions in the most vulnerable communities. Large-scale agriculture (citrus, banana, sugarcane) and aquaculture (shrimp and tilapia farming) along with increased coastal development have escalated forest cover loss to further increase vulnerability to natural hazards.

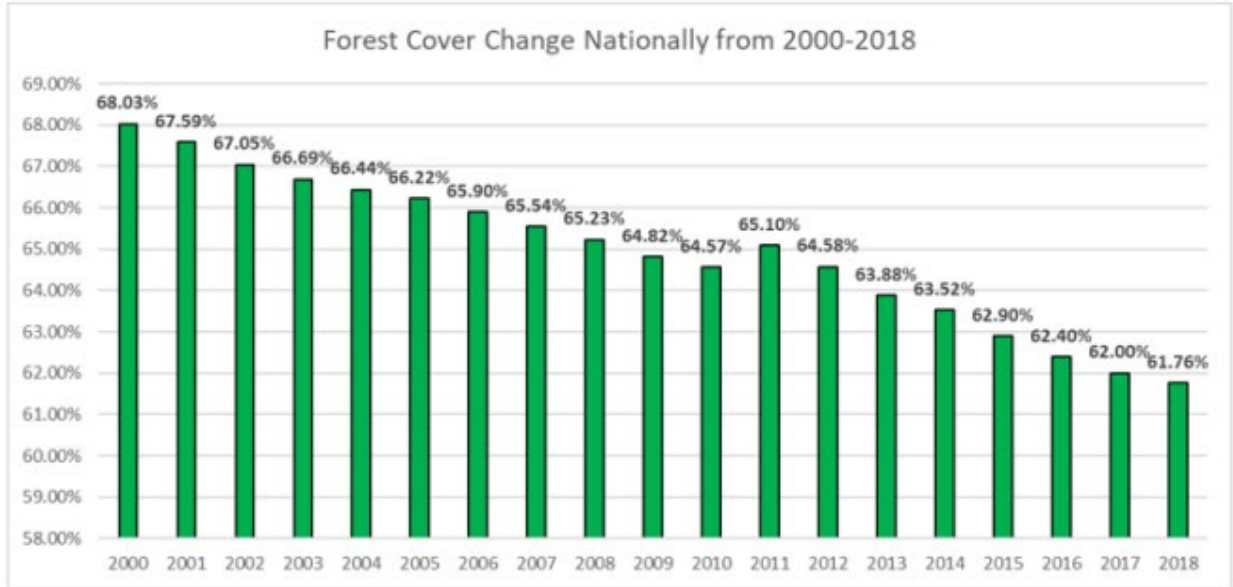
**Figure 1:** National Protected Areas Map of Belize



Source: Meerman & Wilson (2005)

Despite having a substantive area of forests under protection (see **Figure 1**), Belize’s forest cover change has shown a decline from 74.4% in the 80’s (CHERRINGTON, 2012), to 68.03% in the early 2000’s to 61.76% in 2018 (FOREST DEPARTMENT, 2020). Approximately, 33,129 ha (81 863 acres) of forest were lost due to fires and hurricane damage, effectively causing a four-fold increase in forest loss (CHERRINGTON, 2012). The impact of climatic events such as hurricanes also contributes to forest loss. In 2010, for example, it was estimated that hurricane Richard and wildfires affected a combined total of 33,129 ha of forest (CHERRINGTON, 2012). The loss of forest cover between 2000-2018 as depicted in **Figure 2**, has also been due to unsustainable economic activities, such as slash and burn agriculture, commercial aquaculture, illegal and unsustainable logging, as well as from pests and diseases (FOREST DEPARTMENT, 2020). **Figure 2** below documents the forest cover losses over a period of eighteen years.

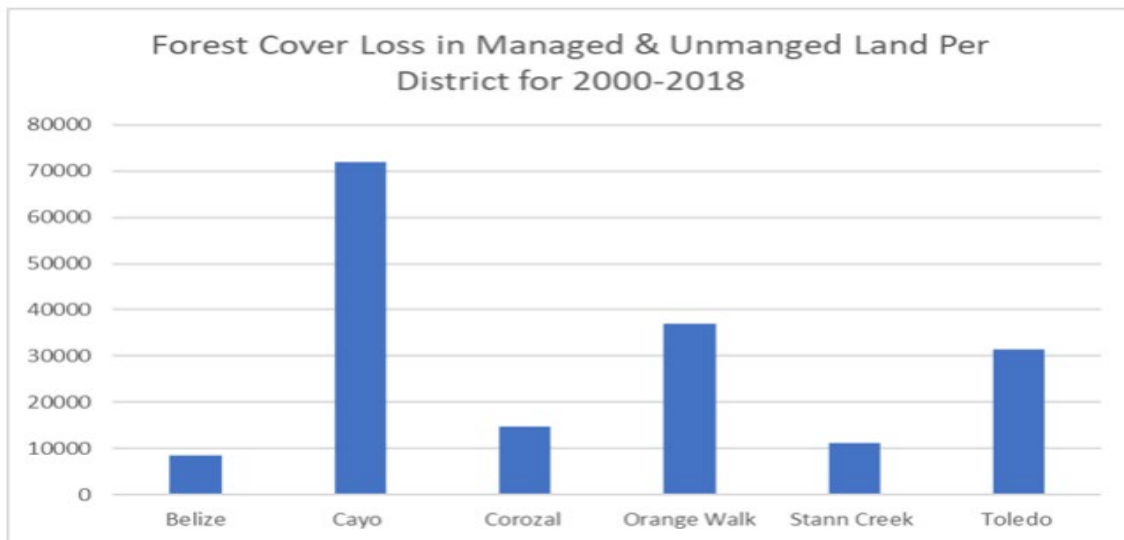
**Figure 2:** Belize's forest cover change from 2000-2018



Source: Belize Forest Department, (2020)

Forest cover loss occurs in both managed and unmanaged lands. These losses are registered highest in the Cayo district (71,879 ha), followed by Orange Walk district (37,096 ha), and Toledo district (31,466 ha), respectively. Corozal (14,677 ha), Stann Creek (11,159 ha) and Belize (8,545 ha) recorded the least forest cover lost (**Figure 3**).

**Figure 3:** Forest cover loss in managed and unmanaged land per district for 2000-2018



Source: Belize Forest Department (2020)

In terms of changes around watersheds (**Table 1**), during 2010-2012, approximately 40% of the deforestation in Belize occurred in the Belize River Watershed (BRW), followed by the New River, Rio Hondo and Northern Rivers (CHERRINGTON, 2012). Where loss of riparian forests in watersheds are not properly managed, the impact of climate change will be exacerbated in and around buffer communities as well as those adjacent to the watersheds.

**Table 1:** Deforestation in watersheds in Belize

Major Watershed	Deforested (2010- 2012)		
	Ha	Acres	%
Belize River	9,201	22,737	36.70%
New River	2,458	6,073	9.80%
Rio Hondo	2,314	5,717	9.20%
Northern River	2,062	5,096	8.20%
Sibun River	1,553	3,836	6.20%
Monkey River	778	1,921	3.10%
Moho River	411	1,015	1.60%
Temash River	309	763	1.20%
Sittee River	240	594	1.00%
Rio Grande	224	552	0.90%
North Stann Creek	220	544	0.90%
Sarstoon River	133	330	0.50%
South Stann Creek	85	210	0.30%
Mullins River	63	156	0.30%
Golden Stream	39	96	0.20%
Deep River	30	74	0.10%
Sub-total: Major Watershed	20,118	49,712	80.20%
Sub-Total: Non-Major Watershed	4,974	12,291	19.80%
<b>Total</b>	<b>25,092</b>	<b>62,003</b>	<b>100%</b>

Source: CHERRINGTON (2012)

Agrochemicals and fertilizers are present in ground waters at notable levels (Husaini et.al 2020). There is high concentration of microplastics in the Belize River Watershed and this will eventually impact the marine ecosystem (GOB, 2019). The improper disposal of solid waste poses a threat to the country's environment contributing to water pollution and natural resource degradation that will exacerbate the impact of climate related events. The impact of climate change is felt in the productive sector of Belize affecting the livelihood of a large part of the population. The MCCAP (2020) outlines the intensifying effects of climate change that is likely to impact Belize's nature, people and production along four (4) areas.

### **Floods**

Belize is seasonally affected by tropical storms and hurricanes, which on average, are becoming more intense each year. Floods have become more pronounced and frequent (for example Hurricane Julia) in the inland areas which can lead to infrastructure and economic losses, especially in agricultural and inhabited areas during the hurricane season, which spans six months from June to November, annually. In 2020, Hurricane Eta and Iota caused unprecedented flooding in the western portion of the country

resulting in large-scale damage to the country. Hurricane Eta affected approximately 50 000 - 60 000 persons in Belize. Houses especially in the western part of the country were under several feet of water for days causing some community members to become homeless. Flooding has been reported as having the highest damaging potential in Belize causing damage to critical national infrastructure.

### ***Sea level rise, severe storms, frequent and more intense hurricanes***

Belize is one of the countries that is most affected by weather related events and other natural hazards. Hurricane and tropical storms cause severe loss from wind damage and flooding due to storm surges and heavy rainfall<sup>1</sup> (Hurricane Lisa in November,2022). Owing to the intensity of hurricanes, frequent storms and prolonged rainfall, Belize incurs annual losses of approximately 4% of GDP due to natural disasters<sup>2</sup>. For example, Hurricane Lisa caused more than 21 million dollars in damages<sup>3</sup>. Hurricanes, tropical storms, heavy and consistent rainfalls cause riverbanks and creeks to burst and inundate nearby communities and towns that often lack or have poor drains and drainage systems.

### ***Droughts***

There are notable changes in the wet and dry seasons, to which the increase in temperature and periods of droughts have been attributed. Unpredictable rainfall patterns have made it difficult for farmers to manage crop cycles (planting and harvesting). Droughts have also caused the water sources like lagoons to completely dry up. For instance, in 2019, the Sapote Lagoon in Corozal dried up due to the long term drought that the country experienced. The drought affected the nearby villagers who are farmers and have households that rely on the land and freshwater resources for commercial use and subsistence living. Drought conditions are also common in the central region of the country, in particular the Belize river valley. Here, subsistence farmers and cattle ranchers frequently experience dry weather that affects pastures and livestock.

### ***Extreme temperatures***

Belize has been experiencing extreme temperatures which have affected crops and livestock production. Projected climate change temperature rise in Belize will be between 2°C and 4°C by 2100, which is a 7-8% decrease in the length of the rainy season and 6-8% in the length of the dry season and 20% increase in the intensity of rainfall in very short periods of time. Although timelines for wet and dry seasons were previously distinctive, the unpredictability of weather conditions are now more stark. Longer periods of dry and wet have closed the gap on the seasons which have caused longer rains and dry spells.

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<sup>1</sup> See <https://climateknowledgeportal.worldbank.org/country/belize/vulnerability>. Accessed November 2022

<sup>2</sup> Belize Earthquakes and Hurricane Risk Profile. See <https://www.gfdrr.org/sites/default/files/Belize.pdf>. Accessed November 2022

<sup>3</sup> See <https://www.paho.org/en/documents/hurricane-lisa-situation-report-5-4-november-2022> . Accessed: November 2022

### ***Land degradation***

Forest loss due timber harvesting, and expanding commercial agriculture have contributed to land degradation with direct impact on soil conditions. Traditional production by slash and burn cropping systems, arbitrary use of chemicals (herbicides and pesticides), and the planting of crops near rivers and hillsides (unsustainable agricultural practices) are all contributing to declining soil quality, soil erosion, and degradation of farm landscapes. Additionally, unsustainable use of these resources have been significantly affecting the ecosystem services provided by forests and land.

### **Poverty**

Poverty in Belize has been consistently high since 2009. The last Poverty Assessment Report (2009) indicated the poor in Belize were 33 percent (33 %) of the population. In 2021, at the height of the Covid-19 pandemic, poverty in Belize had reached 52 per cent nationally (SIB, 2021). Most of the poor live in rural areas with the highest levels in the Toledo District where poverty reached (58%) in the same period. These populations are mostly subsistence farmers who also use natural resources for livelihood as well as for cultural and traditional purposes. At the same time, there is growing urbanization in Belize as a result of the rural to urban migration and migration from Central American countries. In the urban areas, many vulnerable populations live in residential housing located in water catchment areas or in areas prone to flooding. The absence and inadequacy of drains and drainage systems to alleviate flooding during weather events increases the impact of climate related events on households and communities. Climate change affects the safety and security of poor and marginalized households at the same time that it can diminish their earning capacities and livelihood opportunities.

### **Socio-economic context**

Belize, like other Small Island and Development States (SIDS) is prone to the impact of climate change and as such the population is highly vulnerable to the increasing prevalence and strength of weather and climatic events. Climate change is a “threat multiplier” because it can escalate social, political and economic tensions that can exacerbate the vulnerabilities that women and girls already face because of their sex. The impacts of climate change will extend across the economic, social, cultural and governance mechanisms because men and women are impacted differently.

### **Country gender profile**

The population of Belize has steadily increased. The estimated mid-year population in Belize in 2022 was 441,471, comprising 220,739 males and 220,732 females, situating Belize as having an almost even split population between the sexes.<sup>4</sup> Whilst more people live in rural areas, the population growth has been proportionally in rural and urban areas as noted in **Table 2** below.

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<sup>4</sup> Statistical Institute of Belize, Postcensal Estimates 2010-2022 by Administrative Area and Sex. Sourced online at: <https://sib.org.bz/statistics/population/>

**Table 2:** Estimated Mid-Year Urban-Rural Population Disaggregated by Sex 2018-2022<sup>5</sup>

Urban Population (mid-year)	2018	2019	2020	2021	2022
Male	86,963	89,155	91,405	93,713	96,082
Female	91,232	93,508	95,844	98,241	100,702
Rural Population Mid-year	2018	2019	2020	2021	2022
Male	112,065	115,092	118,198	121,386	124,657
Female	107,790	110,732	113,752	116,851	120,030

There are gender implications for women and men based on whether they are located in rural or urban areas. For example, in terms of access and proximity to natural resources, men are more likely to be location privileged as they tend to be closer to the terrestrial, natural resource base of rural areas. Women who have moved to urban areas, in order to seek opportunities outside of rural areas, face new challenges which see them having to find non-agriculture-related work. Those who migrate to the towns, peri-urban areas and cities will have to learn to navigate formal social protection mechanisms and find work outside of the home. In the sphere of income generation opportunities that are crucial for women, climate change will impact the tourism and service industries (changing weather conditions, frequent storms, drought and wildfires can cease tourism operations both locally and nationally) to directly affect young men and women who are mostly employed in these industries. It will also affect properties and the populations who live and work in the coastal zones which is where most of Belize's tourism enterprises are located.

Gender stereotypes related to education pervade, making it more likely that men will pursue subject areas and technical skills building most related to climate adaptation and mitigation. The enrolment rates at the Institute for Technical and Vocational Education and Training (ITVET) across the country, as shown in **Table 3**, indicate that male enrolment was at 71 per cent (71%) and for females at 29 per cent for the 2020/2021 academic period. Overall, this qualification is still under-subscribed for both males and females, but especially for females. Typically, more males than females attend ITVETs and earn technical and trade qualifications upon completing secondary school as a legitimate option for gaining employable knowledge and skills.

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<sup>5</sup> Ibid.



**Table 3:** Vocational and Training Enrolment in the Country (Ministry of Education 2020-2021)

Districts	Enrolment by sex (2020/2021)	
	Male	Female
Corozal	48	23
Orange Walk	196	16
Belize	127	23
Cayo	161	83
Stann Creek	57	24
Toledo	50	16

Generally, men are more primed to scale up skills and immediately access work in the emerging sectors related to climate change adaptation and mitigation. In alignment with gender stereotypes related to working in areas requiring technical knowledge and physical labour, women are less likely to participate in economic activities, including installations of innovative climate technologies and other relevant construction-based activities. Not only does this limit women's economic activity and by extension, earning capacities, but it also limits the available workforce in emerging markets which can significantly advance Belize's efforts in climate change-related enterprise. Therefore, support for gender-responsive training of women for technical competence in relevant fields is pertinent for climate change adaptation and mitigation and would advance national adaptation efforts.

Further to the above, women increasingly occupy leadership and management roles in the natural resource sector. Preliminary research on leadership in protected areas management in Belize found that women executives have higher qualifications than their male counterparts (Castillo, 2022). Additionally, the enrolment of female students in the Natural Resources Management Program at the University of Belize (see **Table 4**) shows almost equal numbers of women and men in 2021-2022, with increases in female enrolment from the previous year.

**Table 4:** Enrolment in Natural Resource Management Program (University of Belize, 2020-2021)

Degree	2020-2021		2021-2022		Total
	Male	Female	Male	Female	
Associates	28	30	26	27	111
Bachelors	14	28	24	25	91

Sub-total	42	<b>58</b>	50	<b>52</b>	202
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The consistently high level of female enrolment in the tertiary and undergraduate programs at the national university, bodes well for the inclusion of trained female and male professionals who can contribute to climate change mitigation and adaptation. The demand and necessity for these skills have been underlined in almost all of Belize’s policies, strategies, and action plans in response to climate change - some areas demand skills that, currently, most men are likely to have. However, all have outlined investment priorities that forge closer links between the country’s economic development and the sustainable management of its natural resources. The capacities to determine the extent to which the higher academic qualifications achieved by women and the program offerings of post-secondary institutions support a climate adaptation need to be strengthened so that women, like men, can contribute equitably and benefit equally.

Whilst social and cultural norms dictate that men make most of the decisions in the home, the burden of care and management of household resources falls disproportionately on women and girls. In alignment with gender stereotypes and the gender division of labour which associates caregiving and domestic tasks as part of women’s work, generally, there is less expectation of men to engage in care activities. Women and girls are typically caregivers for the most vulnerable within a household, including providing care and support to children, older persons, those with chronic illnesses, or living with a disability.

Societal preference for gender work affects the types of roles women and men assume in the context of climate mitigation, adaptation, and response. For example, it is noted that due to the care-giving roles of women and girls they are also more relied upon in the home to promote and communicate adaptation measures at the household level. Conversely, more men occupy spaces for community decision-making and can influence relevant community mobilization, prioritization of messaging and decision-making on community infrastructure. However, this division of labour also puts much burden on women for the safety and care of the family. It potentially excludes them from decision-making at the community level, which will affect them. The approach, therefore, should be balanced.

Climate change-related hazards and impacts brings to the forefront the immediate need to develop specific capacities, resources, cultural practices and governance opportunities so that both men and women can participate inequitably. Fundamentally, this means that their gender-based peculiarities must be met, as men and women are not impacted in the same ways by climate-based variability. Notably, women face significant constraints owing to existing economic, social, and cultural practices and policy directives that reinforce or fail to address pervasive gender inequality.

For women, climate change threatens their livelihoods, well-being and creates a vicious cycle of vulnerability to future disasters (UNWomen, 2022). While traditionally men have greater access to financing

which they can leverage to rebuild after climatic events, women have far fewer resources and assets that they can use to recover from weather and climatic events. Additionally, they have limited access to education, and public information on climate financing which makes them even more economically challenged to recover from the negative impacts of climate change (CADS, 2022).

In weather events, like hurricanes, additional responsibilities lie upon women and girls because they are expected to provide additional labour to manage food, water supply, caring and shelter needs for the family. Commonly, in the aftermath of a climatic event, women manage the household recovery efforts while men return to work outside of the home. Climate change is already influencing the distribution of labour in the household and will exacerbate constraints on women's economic activities and opportunities. To this end, climate change poses threats to the ways of life, livelihoods, health, safety and security for women and girls (UNWomen, 2022).

These inequalities limit women's ability to participate in their communities and broader societies in more balanced and empowering ways. Women are still not provided equitable access to economic networks and opportunities emerging in climate change-related sectors and they are not accessing the required education and skills to substantially contribute to resilience building. The lack of women's inclusion in these sectors also limits Belize's ability to meet the labour requirements for the expansion of sustainable development-related enterprises. Gender work limits innovation and the building of adaptive capacity.

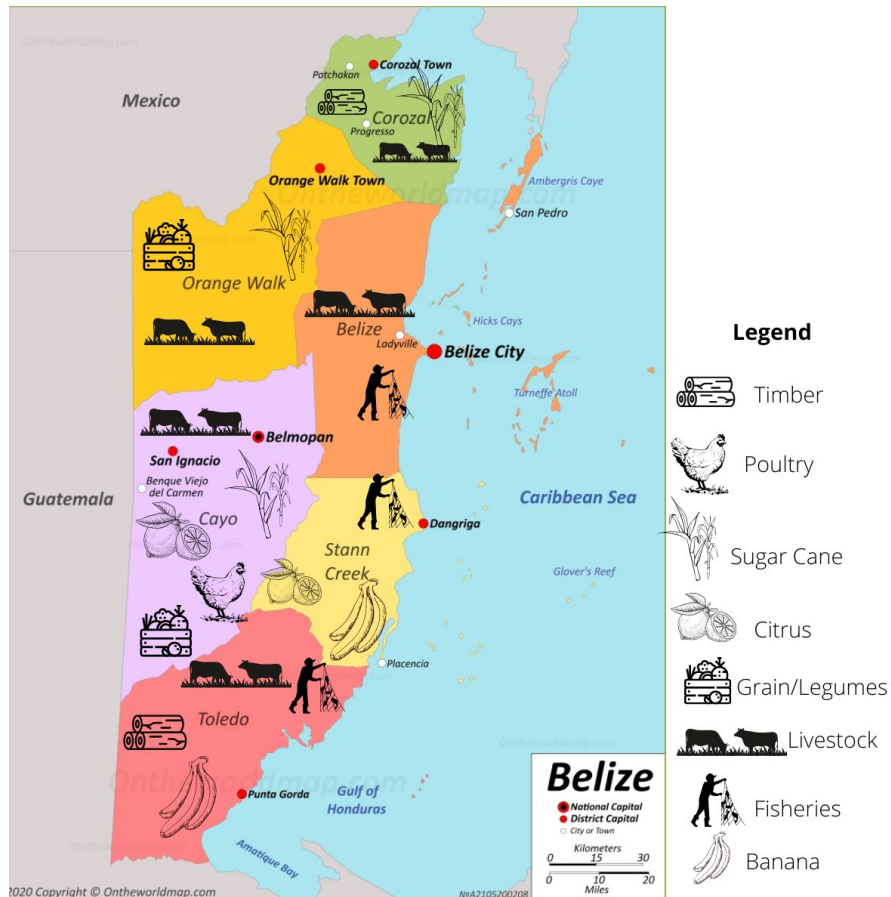
Overall, women in Belize are insufficiently engaged in the economy to offset the costs of interventions for climate adaptation. While they stay longer in school and have higher qualifications than their male counterparts, they generally do not leave the education system with the skills and the technical expertise needed to implement climate change interventions. For instance, women are still under-represented in fields such as engineering, construction, and electrical trades. They are also under-represented at the highest level of government and therefore have limited voice in governance, policy and agenda setting for climate change adaptation.

Attention to women's access to new employment opportunities and to financing that will grow their business can increase greater national resilience to the impacts of climate change. Additionally, increasing women's ownership of and access to land for productive purposes is an area needing urgent attention to reduce the economic exclusion and marginalization that they face. Further, women need support to balance the burden of care especially at the household level. Support with care responsibilities and social protection benefits will enable women to pursue income generating options to better adapt to climate change and variability.

## Development context

The main economic activities that drive Belize's economy and which also generate export earnings are marine products, livestock, agriculture, sugar and timber or forest products. These activities are distributed around the country as can be seen in **Figure 4**.

**Figure 4:** Main agricultural activities in Belize



Source: CADS-Belize (2022)

There are approximately 92,000 acres planted with sugar, 48,000 with citrus and 48,500 with corn, and 135,400 head of cattle graze on 351,700 acres. The Toledo District has the highest concentration of farms (25% of total farms in Belize) where 77% is less than 20 acres in size, followed by the Orange Walk District and then Corozal District (CIAT & WORLD BANK, 2018).

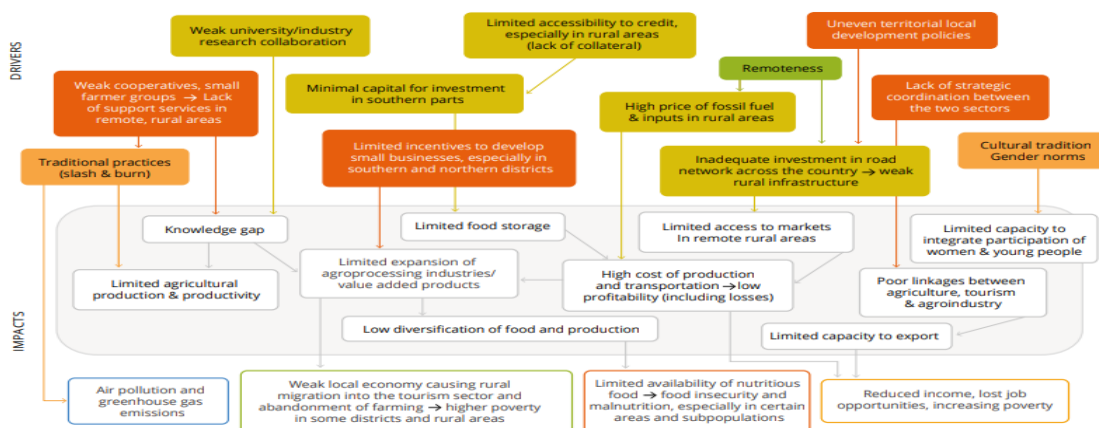
Livelihood and productive capacity at the community level paint a distinct picture for rural income generation. In this regard, the livelihood options for some communities and populations will be further constrained by climate change. This is also compounded by the COVID-19 pandemic which has caused a significant reduction in tourism, one of the main income earners for men and women. A significant part of the population lives and/or work in coastal communities where most tourism activities take place. In fact, most of Belize's economic activities occur along the coast (tourism, fishing and agricultural production).

Belize's third national communication, states that the area most susceptible to the effects of climate change is the coastal ecosystem because of the anticipated increases in sea surface temperatures, salinity, pH, sea level rise and intensity of tropical cyclone events. These climate related effects can have direct implications on the future state of the coastal zone and the ability of Belizean people to utilize the resources it provides (NCCO, 2016).

Additionally, unsustainable agricultural practices (slash and burn cropping systems, excessive use of chemicals such as herbicides and pesticides) and the planting of crops near rivers, or slopes, result in increased soil erosion and degrade the forest. Farming households may also resort to these practices because of relatively low soil productivity, but constant use further exacerbates the declining quality of the lands. Low productivity can make it increasingly difficult for rural communities to maintain their livelihoods through farming and slash and burn milpa farming households are having to go further to find arable land on which to cultivate.

Of note, the FAO (2020) illustrates that there is uneven territorial development in some districts, as compared to others and the remoteness of some villages also account for the lack of development in these areas (Ibid). FAO (2020) asserts that the lack of linkages with nearby development areas, may result in failure to implement processes of development that are inclusive and that will create positive synergies among these affected districts. The rural economy within the districts remains weak since most have underdeveloped infrastructure and most service sectors are still in their infancy. Small-scale private sector and community organizations, electricity and internet coverage remain absent or sparse. In addition, limited educational and industrial capacities constrain the formation of linkages to support productivity enhancement and market access for small-holding households. The poor linkage between agriculture, tourism and agro industry, limited access to markets in remote rural areas, as well as limited food storage capacity continue to impact development of the rural economy (Figure 5).

**Figure 5:** Key bottleneck to integrated territorial and socioeconomic development of a dynamic and inclusive food system across Belize



Source: FAO (2022) Food System Profile- Belize, Catalysing the sustainable and inclusive transformation of food systems.

Remote communities and villages across Belize tend to have less dynamic food and agricultural systems because of the distance and poor infrastructure connecting them to market and urban centers. With only 20% of the primary roads paved roads in these rural areas are more likely to be unpaved resulting in higher costs for inputs, low profitability, limited availability of services that adds to the lack of other supporting infrastructure (FAO, 2020).

There are approximately 30 cooperatives enterprises in the country's agricultural sector and most of these are farmer-only cooperatives. They produce primary goods and products of which only a small quantity is sold in the market (FAO, 2020). This low market penetration further points to the limited and weak development of value added products. There are also insufficient market incentives for farmers to expand and grow their enterprises. The tourism sector's limited confidence in rural tourism opportunities does not bode well for poverty reduction efforts and influences low food systems development, low entrepreneurship development especially in rural and more remote areas of Belize (FAO, 2020).

Furthermore, there is a need to encourage the inclusion of women and youth in entrepreneurship as a means to increase their climate adaptive capacity. Alternative livelihood options for women and youth can support agro-processing and support for the nascent agro-industrial sectors to create brand new food product options that include local ingredients. Such alternative production processes will require energy sources which in and of themselves can contribute to alternative livelihood options for women and youth.

The urban population has also grown generally, but even more specifically, there are more women living in urban areas than men. As this population grows, more people are living in unplanned, and under-serviced areas that are prone to flooding and destruction during climate and weather-related events. In such times, the urban populations can lack access to sanitation and clean water. People who are engaged in this sector may be greatly affected during climatic events since these can force the closure of roads, reduce public transportation and businesses activities on which many in the informal sector depend. A focus on improving livelihood options in the context of climate change is especially important in the aftermath of the Covid-19 pandemic.

The high cost of construction and building materials can further prevent many households from improving infrastructure and housing so they can better withstand stronger weather events. The rising cost of transportation, fuel and construction materials will impact already poor populations and households the most. At the same time, national and local capacities to design and implement climate responsive interventions are challenged to respond speedily to resilience building by accessing climate financing. Though knowledge of climate funds and resources exist, the technical and institutional skills-base are still limited to take full advantage of global and regional resources that countries like Belize can access.

## B. Project Objectives:

### Goal & Objectives

The goal of this project is to improve Belize's long-term capacity to protect communities from climate threats posed by drought, unpredictable water availability, floods and improper wildfire management. By aiming to achieve this goal, the project will strengthen the protection and maintenance of natural resources and ecosystem services, enhance the skills and technical capacities in communities and households to produce goods and services that will expand income generating options, and improve the physical infrastructure in and around vulnerable communities.

To achieve this goal, the five components of this project will target the Belizean communities, regions and populations that have been affected by climate change and variability or that have been identified and recognized as being at risk to climate events and extreme weather variations. This means that the benefits of the project will be accessible to communities and organizations that can develop and implement interventions that contribute to the goal of the project and the outcomes of the Adaptation Fund as is specified in **Table 5** below.

*Table 5: Alignment with the Strategic Results Framework of the Adaptation Fund*

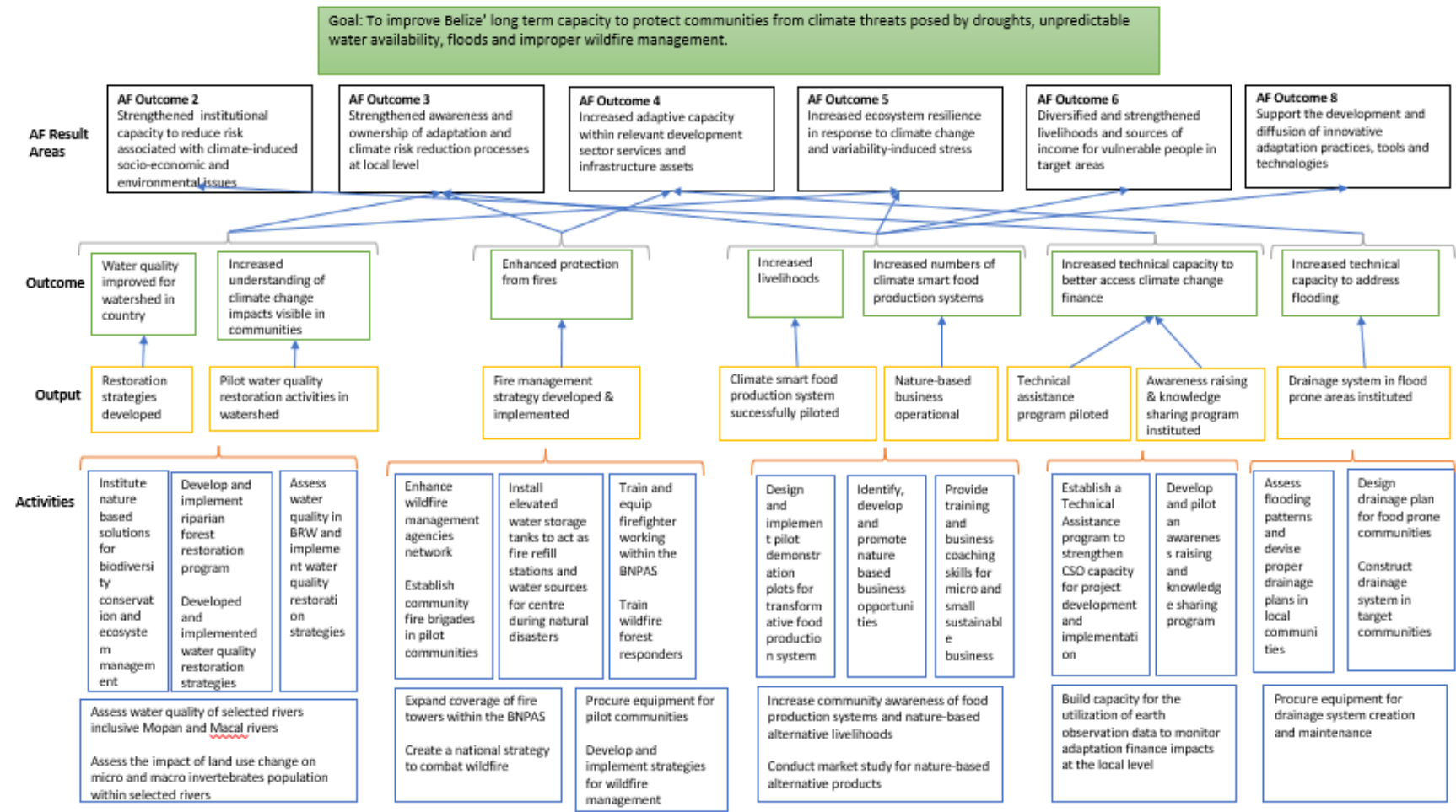
Component	AF Results Framework Linkage
1. Safeguarding forest and water resources through strategic protection and restoration solutions	<p><b>AF Outcome 3:</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</p> <p><b>AF Outcome 5:</b> Increased ecosystem resilience in response to climate change and variability-induced stress</p>
2. Combating wildfires through adaptive management	<p><b>Outcome 3:</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</p> <p><b>Outcome 4:</b> Increased adaptive capacity within relevant development sector services and infrastructure assets</p>
3. Creating opportunities to support alternative livelihoods	<p><b>Outcome 3:</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</p> <p><b>Outcome 5:</b> Increased ecosystem resilience in response to climate change and variability-induced stress</p> <p><b>Outcome 6:</b> Diversified and strengthened livelihoods and sources of income for vulnerable people in the target areas</p> <p><b>Outcome 8:</b> Support the development and infusion of innovative adaptation practices, tools and technologies</p>
4. Building national capacity to access adaptation finance	<p><b>Outcome 2 :</b> Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental issues</p>
5. Community disaster risk management	<p><b>Outcome 4:</b> Increased adaptive capacity within relevant development sector services and infrastructure assets</p>

**The Theory of Change**

The theory of change proposes the formulation and implementation of five interconnected and local adaptation interventions that can enable multiple actions in regions where the most vulnerable populations live and work. This change will be made operational through the application of PACT's call for proposal process during which civil society organizations, municipal governments, community groups including women's organizations, village councils, local non-governmental organizations, and international organizations can apply for adaptation funding through proposals that are linked to the components. They will do so by submitting proposals that clearly outline outputs that contribute to project level and AF outcomes. The theory of change is not exhaustive nor prescriptive, however, applicant organizations and entities will be expected to demonstrate the existence of sound partnerships that deepen the provision of technical skills and knowledge transfer in the beneficiary community. Furthermore, the proposals must demonstrate sustainability and impact that will continue beyond the project implementation period of five years. The proposed projects will be aligned to the project component areas with a strong adaptive climate rationale.



Figure 6: Theory of Change



The project goal contributes to six AF outcomes with corresponding project level outcomes that have multiple linkages. Specifically, the project contributes to the following AF outcomes:

- **AF Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental issues
- **AF Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
- **AF Outcome 4:** Increased adaptive capacity within relevant development sector services and infrastructure assets.
- **AF Outcome 5:** Increased ecosystem resilience in response to climate change and variability-induced stress
- **AF Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in the target area
- **AF Outcome 8:** Support the development and infusion of innovative adaptation practices, tools and technologies

Building on the consultative processes undertaken during the formulation of the project, the on-granting process by PACT will support funding applications which demonstrate that communities have a detailed understanding of their adaptation needs as well as the capacities to leverage additional resources in their respective areas of focus. Through their applications, the communities will focus on implementing the measures needed to ensure that they comply with the relevant safeguards. Furthermore, PACT will apply its environmental and social management framework to screen funding projects during the review process to ensure that the adaptation measures proposed are feasible, locally owned and have built-in sustainability measures.

### **The Project Area**

The project is intended to have a national reach for the populations most affected by climate change and weather events have access to resources and technical skills to address the challenges they face. As the project will be operationalized through the call for proposals, organizations and entities from across the country can apply for funding to support activities that align with the outputs of the five components. While the geographic specifications for the project are not prescriptive, some areas are prone to greater climatic impacts than others and would be considered priority areas. In this regard, the screening process by PACT can further validate the projects that will be implemented in a particular area. In addition to climatic vulnerability, project proposals for any area should be able to demonstrate sound partnerships with technical experts or institutions with mandates to ensure that technical, legislative and regulatory guidelines and commitments are met.

## Project Components and Financing:

Table 6: Project Components and Financing

Project Components	Expected Outcomes	Expected Concrete Outputs	Amount (US\$)
Component 1 <i>Safeguarding forest and water resources through strategic protection and restoration solutions</i>	Outcome 1.1 Water quality improved for watershed in country	Output 1.1.1 Restoration strategies developed	425,000
	Outcome 1.2 Increased understanding of climate change impacts visible in communities	Output 1.2.1 Pilot water quality restoration activities in watershed	685,000
<b>Total Component 1</b>			<b>1,110,000</b>
Component 2 <i>Combating wildfires through adaptive management</i>	Outcome 2.1 Enhanced protection from fires	Output 2.1.1 Fire Management Strategy	465,000
		2.1.2 Improved wildfire management for forests and grasslands across Belize	635,000
<b>Total Component 2</b>			<b>1,100,000</b>
Component 3 <i>Creating opportunities to support alternative livelihoods</i>	Outcome 3.1 Increased livelihoods	Output 3.1.1 Climate smart food production system successfully piloted	977,500
	Outcome 3.2 Increased numbers of climate smart food production systems	Output 3.2.1 Nature-based business operational	325,000
<b>Total Component 3</b>			<b>1,302,500</b>
Component 4 <i>Building national capacity to access adaption finance</i>	Outcome 4.1 Increase technical capacity to better access climate finance	Output 4.1.1 Technical assistance programme piloted	155,000
		Output 4.1.2 Awareness raising and knowledge sharing program instituted	\$125,000
<b>Total Component 4</b>			<b>280,000</b>
Component 5 <i>Community Disaster Risk Management</i>	Outcome 5.1 Increased technical capacity to address flooding	5.1.1 Drainage system in flood-prone areas installed	<b>684,820</b>
<b>Total Component 5</b>			<b>684,820</b>
<b>5. Total Components</b>			<b>4,477,320</b>
<b>6. Project/Programme Execution cost</b>			<b>68,180</b>
<b>7. Total Project/Programme Cost</b>			<b>4,545,500</b>
<b>8. Project/Programme Cycle Management Fee</b>			<b>454,500</b>
<b>Amount of Financing Requested</b>			<b>5,000,000</b>

Table 7: Projected Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2023
Mid-term Review	September 2025
Project/Programme Closing	January 2027
Terminal Evaluation	January 2027

## PART II: PROJECT / PROGRAMME JUSTIFICATION

### A. The Project Components

The main objective of the project is to restore, and enhance the protection of the vital ecosystem and the corresponding ecosystem services to improve the well-being and livelihoods of vulnerable communities. The proposed project intends to improve the ability of Belizean communities to address the social and environmental threats posed by climate change to water security, human health and ecosystem services. This project is to enable the implementation of outputs that include, strategies, assessments, policy updates, product development, marketing, infrastructure design, construction and communication and community mobilization activities that directly contribute to the strengthening of resilience in communities across Belize. It will address some of the most salient climate change impacts to vulnerable populations to better adapt to the extremes of climate change and variability.

This will be done through the participation of multiple communities and national entities that respond to the Call for Proposal that PACT will subsequently launch. In doing so, local communities and organizations can access the requisite climate finance to build resilience based on identified needs. Ordinarily, these applicant communities and local organizations would be challenged to seek and successfully access climate finance due to their limiting technical and financial capacity to engaged Funds. As an on-granting mechanism, PACT will be functioning under its operational mandate and structure. In addition to the on-granting mechanism, PACT may also establish structures and mechanisms that will formally institutionalize partnerships that facilitate access to finance in some of the components.

The **five interlinked components or thematic areas will enable improved climate adaptation by:**

- i. Safeguarding Forest and Water Resources through Strategic Protection and Restoration Solutions
- ii. Combating Wildfires through Adaptive Management
- iii. Creating Opportunities to Support Alternative Livelihoods
- iv. Building National Capacity to Access Adaption Finance
- v. Community Disaster Risk Management

## **Component One: Safeguarding forest and water resources through strategic protection and restoration**

Component One, *Safeguarding Forest and Water Resources through strategic protection and restoration* focuses on improving the ecological integrity of watersheds by addressing issues related to the deterioration of water quality linked to the characteristic use and climate change impacts. Two rivers have been identified for potential intervention, the Mopan and Macal Rivers, which are part of one of the most densely populated watersheds in the country - the Belize River Watershed. Maintaining the health of the ecosystem to protect its provisioning services equates to securing water resources for 45% of Belize's population. Through these actions undertaken in the BRW, other water bodies can also be identified for interventions under the EDA. Such initiatives would be managed through collaborative efforts by other entities such as the National Biodiversity Office (NBIO), National Hydrological Service, Department of Environment and the Forest Department. Local municipalities can work closely with the regulatory agencies to identify adaptation actions needed to improve water quality and protect forest and water resources. This will enable the communities to support national action by working with key entities to identify problem areas to champion the need for immediate interventions to address climate impacts. Activities to be targeted under this Component include, but are not limited to:

- i. Assessing water quality of the selected river tributaries in the Belize River Watershed inclusive of the Mopan and Macal Rivers
- ii. Assessing the impact of land use change on micro and macro invertebrates' populations within selected rivers
- iii. Development and implementation of water quality restoration strategies
- iv. Development and implementation of a riparian forest restoration program
- v. Institute nature-based solutions for biodiversity conservation and ecosystem management
- vi. Assess water quality in the Belize River Watershed and implement water quality restoration strategies

Beyond the BRW, the project may also consider some actions on water resource protection to build climate resilience, including:

- v. Conduct of frequent chemical water quality test for E-coli etc. in wells and pumps for potable water in villages
- vii. Conservation and preservation of water sources and adjacent forests in communities including lagoons, waterfalls, creeks, springs and streams; and
- vii. Develop and implement a pesticide control strategy that prevents contamination of potable water sources in communities.

The project can support the establishment of networks to monitor the impacts of climate change and anthropogenic activities and enable decision makers and local communities to make informed decisions regarding the protection of the watershed for the long-term security of water resources.

## Project Activities

Table 8: Project activities component one

Outputs	Milestones /Targets	Indicative activities	Deliverables
1.1 Restoration strategies developed	1.1.1 Biodiversity Conservation and Ecosystem Management Report Completed	1.1.1.1 Institute nature based solutions for biodiversity conservation and ecosystem management	Reports on biodiversity conservation and ecosystem management
	1.1.2 Riparian Forest Restoration Strategy and Implementation Plan completed	1.1.1.2 Develop and implement riparian forest restoration program	Riparian Forest Restoration Strategy and Implementation Plan for the Belize River Watershed
1.2 Pilot water quality restoration activities in watershed	1.2.1 Belize River Watershed Water Quality Status Report completed and updated Implementation plan completed	1.2.1.1 Assess water quality in the Belize River Watershed and implement water quality restoration strategies	Belize River Watershed water quality status reports Water Quality Restoration Implementation Plan
	1.2.2 Mopan and Macal Rivers Water Quality Report completed	1.2.1.2 Assess water quality of the selected River tributaries inclusive of the Mopan and Macal Rivers	Mopan and Macal Rivers Water Quality Reports
	1.2.3 Impact on Land Use Change on Micro and Macro Invertebrates Research Report completed	1.2.1.3 Assess the impact of land use change on micro and macro invertebrates population within selected rivers	Research Report on the Impact of Land Use Change on Micro and Macro Invertebrates Population in the Belize River Watershed
	1.2.4 Community-based Water Quality sub-projects approved for funding Water Quality Restoration Strategy Communication plan completed	1.2.1.4 Develop and implement water quality restoration strategies	Community-based Water Quality Restoration sub-projects Communication plan for water quality restoration strategy

## Component 2: Combating wildfire through adaptive management

Component Two, ***Combating Wildfires through Adaptive Management*** will scale-up other in-country initiatives geared towards reducing the impacts of wildfires and securing communities. Wildfires have posed a threat to the environment, human health and properties/communities in Belize. The core issues of wildfire management originate from the poor management of controlled fires within traditional agricultural practices, the limited technical and financial capacity of national agencies to manage forest and grassland fires, limited operational preparedness and inadequate fire prevention capability within responsible agencies (Sabido and Green, 2009).

Although there have been increased efforts to address wildfires within the BNPAS through various projects, such as through the Selva Maya Project, wildfires still pose a serious threat to natural ecosystems. The changing climatic and weather conditions have also resulted in extended periods of droughts. This has resulted in the unpredictability of a clearly demarcated period of wet and dry seasons, making it increasingly difficult for agencies to predict and address fire threats in a timely manner. Forest and grassland fires have become increasingly difficult to manage in remote areas of the country that are not within easy reach of the National Fire Service (NFS). This difficulty has prompted the urgent need to adequately equip all national organizations, especially those that manage the preservation of vital ecosystems outside of urban communities.

Belize's NFS has been established as the traditional 'urban firefighting' department, focused on addressing fires in the towns, villages and cities in Belize. The establishment of the NFS removed the need to establish principal fire stations in more urban areas with the exception of Independence and Ladyville Villages, which possess relatively large populations in comparison to the traditionally classified villages. Over the past ten years, however, the NFS has noted that fires from rural areas constitute about 85% of responses due to threats from wildfires. The notable increase in fires tend to originate from hunting and farming practices where fires are used to boost agriculture production and increase game capture. The impact of wildfires is also exacerbated by longer dry seasons creating larger fuel loads resulting in uncontrolled wildfires in these areas. The project aims to address the above issues via the localization of the NFS through a new pilot network of three vulnerable rural communities, which are threatened regularly by wildfires.

The project intends to effectively build the national network of fire responders across the country to address the growing threat of wildfires through actions of the NBIO, Forest Department, local NGOs within the BNPAS and community stakeholders, inclusive of interventions that enable the:

- i. Enhancement of wildfire management agencies network;
- ii. Install elevated water storage tanks to act as fire refill stations and water storage during disaster response
- iii. Creation of a national strategy to combat wildfire;
- iv. Expansion of coverage of fire towers within the BNPAS;
- v. Establishing fire brigades pilot in at least three (3) hot spot communities to enhance response at the community level;
- vi. Training and equipping of fire fighters working within the BNPAS to control fires and to build fire pass; and
- vii. Procure equipment for pilot and other communities in need of fire management assistance and

The project may also consider:

- viii. Creating community programs for the issuance of fire permits at the village council level to improve the monitoring and fire use especially in communities where this is a traditional practice.

- ix. Fire education and network establishment to build a community of practice among local firefighters and fire brigades nationally.
- viii. Procuring equipment for pilot communities (specialized vehicle, firefighting equipment)
- ix. Installing elevated water storage tanks for wildfire management

Given the variation of dynamics within the three target communities identified in the concept note, there is the need for the project to undertake modified actions to address the fire management needs of each community. The NFS and the Forest Department will work with the target communities, to identify fire characteristics in each community and devise site-specific strategies for wildfire management. This will be done in consultation with local communities, allowing both men and women to contribute to the process. Under this component national needs identified by other communities can also be targeted for interventions with the aid of local organizations. The NFS will work with communities on this component.

## Project Activities

Table 9: Project activities component two

Outputs	Milestones / Targets	Indicative activities	Deliverables
2.1 Fire management strategy developed and implemented	2.1.1 Wildfire Management Entities Registry developed	2.1.1.1 Enhance wildfire management agencies network	Updated registry of wildfire management entities
	2.1.2 Fire Management Network Institutional framework completed		Formalized institutional framework for the Fire Management Network
	2.1.3 Fire brigades in pilot communities ToRs completed	2.1.1.3 Establish community fire brigades in pilot communities	Completed terms of references (ToRs) for fire brigades in pilot communities
	2.1.4 Community Fire Brigade Training Manual and Guide completed		Completed Community Fire Brigade Training Manual and Guide
	2.1.5 Contract signed for Installation of elevated water storage  Water storage reports submitted	2.1.1.5 Install elevated water storage tanks to act as fire refill stations and water sources for center during natural disasters	Signed contract with selected firms or entities Quarterly reports of village water boards
2.2 Improved wildfire management for forests and grasslands across Belize	2.2.1. Assessment report of Fire Response in the BNPAS completed	2.2.1.1 Expand coverage of fire towers within the BNPAS	Assessment report of priority fire response regions in the BNPAS
	2.2.2. National Wildfire Strategy and Action Plan completed	2.2.1.2 Create a national strategy to combat wildfire	National Wildfire Strategy and Action Plan
	2.2.3 Training manual for BNPAS firefighters completed	2.2.1.3 Train and equip firefighters working within the BNPAS	Training manual for BNPAS Firefighters
	Contract signed for procurement of fire tool kits		Fire response toolkit for BNPAS firefighters in pilot communities



	2.2.4 Wildfire Training Plan completed	2.2.1.4 Train wildfire first responders	National Wildfire Training Plan and Agenda
	2.2.5 Contract signed for provision of fire toolkits, gears and equipment	2.2.1.5 Procure equipment for pilot communities	Signed contract or purchase order for provision of wildfire toolkits, gears and equipment
	2.2.6. Community-based Wildfire Management sub-projects approved for funding	2.2.1.6 Develop and implement strategies for wildfire management	Community-based wildfire management sub-project initiatives

### Component 3: Creating opportunities to support alternative livelihoods

Component Three, ***Creating Opportunities to Support Alternative Livelihoods***, is considered for the strengthening of climate resilience in communities that are dependent on natural resources for their income, albeit varied, informal and irregular. These communities tend to use traditional practices such as unsustainable agricultural production including slash-and-burn cropping systems, unregulated use of chemicals (herbicides and pesticides), and cultivation of crops near rivers or on hillsides. These practices can result in increased soil erosion, decreased water quality and an overall direct impact on the full functioning and provisioning of local ecosystems. These effects are compounded by the impacts of climate change which act as an added stressor to the natural environment. Climate change poses a threat to communities and their ability to maintain their livelihoods. This threat along with the added pressure from communities to use forest landscapes leads to an alarming reduction in biodiversity and ecosystem functionality. If these threats are not addressed, the sustainability of livelihoods in already climate vulnerable communities will be exacerbated to affect households and whole populations. Through this project alternative livelihood strategies will be devised and implemented to build the capacity of target communities via:

- i. Piloting of demonstration plots for transformative food productions systems
- ii. Identifying and promoting nature-based business opportunities
- iii. Providing training and business coaching skills for the establishment of functional small sustainable businesses; and
- iv. Increasing awareness and training in food production systems and nature-based alternative livelihoods.

The project may also consider:

- v. Creating a program to ensure extension and technical services are provided for alternative food production and livelihood options via marketing assistance, business ideas, new business, packaging and added value to existing products;
- vi. Strengthening small scale producer organizations through product pricing training and business to business negotiations;

- vii. Creating a network of intra-regional producers and suppliers (eg. Toledo and southern part of the Stann Creek Districts) and inter-regional networks (eg. Belize and Toledo District) to access the full extent of the domestic market for locally produced, nature-based products; and
- viii. Repackaging and rebranding of the tourism product in Belize to include experiential tours especially from farm to table dining experiences with women farmers and agricultural producers, and adventure tours in lesser visited protected areas.

This component is especially important for gender mainstreaming and women’s empowerment, hence, the project can consider enabling actions such as childcare training and early childhood education actions. These actions are seen as enabling interventions that can reduce economic discrimination and the disproportionate burden of care that preclude many women from entering the workforce and finding jobs.

Under component three, entities such as the Ministry of Agriculture and the Inter-American Institute for Cooperation in Agriculture (IICA) can work with selected communities to identify crops for cultivation under the transformative food production systems and nature-based alternative livelihoods actions. This will enable the implementing entities to build on the strengths of local communities and devise site-specific solutions that are beneficial and economically viable for the target populations. The training activities will likewise be developed to address the needs of target communities and groups. Communities will be the direct recipients of financing and adaptation benefits, although collaboration with experts and lead entities for technical assistance in agriculture, climate smart production, supply chain management, marketing, and business development is expected for this component. Applicants to PACT’s call for proposals who are interested in this component will be expected to demonstrate that their actions will include and build on these types of partnerships as a means to ensure sustainability.

## Project Activities

Table 10: Project activities component three

Outputs	Milestones / Targets	Indicative activities	Deliverables
3.1 Climate smart food production system successfully piloted	3.1.1 Transformative Food Production Systems Assessment Report completed	3.1.1.1 Design and implement pilot demonstration plots for transformative food production systems	Transformative Food Production Systems Assessment Report
3.2 Nature-based business operational	3.2.1 Nature-based businesses identified and selected in communities	3.2.1.1 Identify, develop and promote nature based business opportunities	Nature-based businesses operational in select communities
	3.2.2 Micro and Small Business Training manual completed  Micro and Small Coaching plan completed	3.2.2.1 Provide training and business coaching skills for micro and small sustainable business	Micro and Small-Businesses Training Manual  Micro and Small Businesses Coaching Plan

	Micro and Small Coaching sessions implemented		
	3.2.3 Food Production System Communication and awareness plan completed  Community Awareness and Training sessions implemented	3.2.3.1 Increase community awareness of food production systems and nature-based alternative livelihoods	Food Production System Communication and Awareness Plan  Community awareness and training sessions in select communities
	3.2.4 Nature-based Products Market study report completed	3.2.4.1 Conduct market study for nature-based alternative products	Nature-based Products Market Study Report

**Component 4: Building national capacity to access adaption finance**

Component Four, ***Building National Capacity to Access Adaption Finance***, intends to address the need for increased technical capacities to access and implement climate finance projects in the country. Competencies to access climate financing have become increasingly important for local entities who are accredited to support programme and project implementation with funding from multilateral agencies. Many national entities have limited experience developing projects and programs that have a climate-adaptive focus and rationale. They also lack the technical expertise to effectively analyze and integrate climate data to strengthen projects. Under this component, targeted national institutions and community organizations will be provided with resources for capacity building and skills development to enhance national competencies in ecosystem-based adaptation projects. This will strengthen the human resource capacities and technical competencies within entities, including the NGO community, civil society organizations, municipal bodies, and academia. They will be empowered to engage with donors and sponsoring organizations to access financing for adaptation activities:

Activities under this component can include:

- i. Establishment of a Technical Assistance Program to strengthen CSO capacity for climate change project development and implementation;
- ii. Development and piloting of an awareness raising and knowledge sharing program; and
- iii. Building up of national technical capacities including those in the public sector for the utilization of earth observation data to monitor adaptation finance impacts at the local level to inform policy and strategic planning.

This component will also consider:

The establishment of intra-district and regional (inter-district) networks of adaptation implementing agencies to promote knowledge sharing, field visit exchanges, technical support, and emerging best practices. These activities can support gender mainstreaming and women’s empowerment for climate adaptation inclusion. Furthermore, these efforts will help to build ownership and sustainability of sub-project actions even after completion of the project in 2027.

## Project Activities

Table 11: Project activities component four

Outputs	Milestones / Targets	Indicative activities	Deliverables
4.1 Technical Assistance Program piloted	4.1.1 Contract signed for Technical Assistance Program	4.1.1.1 Establish a Technical Assistance Program to strengthen CSO capacity for project development and implementation	ToRs for consultancy Signed contract with firm or entity
4.2 Awareness raising and knowledge sharing program instituted	4.2.1 Contract signed to develop and pilot awareness raising and knowledge sharing program	4.2.1.1 Develop and pilot an awareness raising and knowledge sharing program	ToRs for consultancy Signed contract with firm or entity
	4.2.3 Contract signed for capacity building using earth observation to monitor adaptation finance impact	4.2.1.2 Build capacity for the utilization of earth observation data to monitor adaptation finance impacts at the local level	ToRs for consultancy Signed contract with firm or entity

## Component 5: Community disaster risk management

Component Five, **Community Disaster Risk Management**, aims to address flooding in communities resulting from prolonged and intense periods of rains, storms, tropical depressions and hurricanes. Many low-lying communities in inland and coastal areas of Belize lack proper drainage systems that would allow for flood waters to recede efficiently and quickly. In communities where drainage systems are inadequate and non-existent, the issue of flooding poses additional threats to infrastructure, human health, security and safety after weather events. In their aftermath, communities are often plagued with mosquitoes that breed in stagnant waters, and can spread vector borne illnesses such as malaria and dengue. Additionally, communal, social and productive activities can be interrupted when children are unable to attend school, workers cannot go to their jobs, transportation is halted and fields are destroyed. This component will require collaborative partnerships of local municipalities, village councils, community leaders and the District Coordinators from the National Emergency Management Organization (NEMO) as well as technical specialists from the Ministry of Infrastructure Development and Housing and the Ministry of Rural Transformation, Community Development, Local Government and Labour.

Many communities have a history of working with district emergency coordinators for the implementation of pre and post-emergency action to safeguard lives. This component will function under the same premise. Communities will work with local authorities to identify problem areas and devise long-term solutions to address flooding in those areas. The installation of proper drainage systems in the priority areas will enable communities to protect infrastructure, restore normal community and social activities and also reduce the incidents of vector borne illness that can threaten human health. The outputs under this project are highly technical since they can involve the construction of physical infrastructure, production of technical designs

and the execution of engineering and building standards and codes. This means that agencies such as village councils, non-government, civil society and producer organizations should consider partnerships with a relevant regulatory body or public entity with the requisite expertise and mandates for flood and infrastructure regulations and construction to implement proposals under this component.

Key activities to be targeted under this component include:

- i. Assessing flooding patterns and devising proper drainage plans in local communities;
- ii. Procuring equipment for drainage system creation and maintenance; and
- iii. Construction of drainage systems in target communities.

The project may also consider:

- iv. Developing and designing residential planning at the village level; and
- iv. Instituting drain and flood committees, with skills training and equipment to maintain and upkeep existing drains as preventive flood measures.

## Project Activities

Table 12: Project activities component five

Outputs	Milestones / Targets	Indicative activities	Deliverables
5.1 Drainage system in flood prone areas installed	5.1.1. Flooding Pattern Assessment report completed	5.1.1.1. Assess flooding patterns and devise proper drainage plans in local communities	Flooding Pattern Assessment Report
	5.1.2 Contract signed for Drainage Design and Plan	5.1.2.1. Design drainage plan for flood prone communities	ToRs for consultancy Signed contract with firm or entity
	5.1.3 Contract signed for Drainage system	5.1.3.1. Construct drainage systems in target communities	Signed contract with firm or entity
	5.1.4 Contract signed for equipment for drainage system and maintenance	5.1.4.1. Procure equipment for drainage system creation and maintenance	ToRs for consultancy Signed contract with firm or entity

In applying the EDA model, PACT will be able to operate on the basis of its current investment framework for the award of grants as recognized by the Fund. PACT expects that during the call for proposals, implementing agencies such as NGOs and CBOs, grassroots organizations, women's groups, small and micro enterprises will develop responsive projects that address the adaptation needs of a wide cross-section of stakeholders. PACT will ensure the application of its ESMF, its investment framework and screening process are in compliance with PACT's accreditation and fiduciary responsibilities, funding protocols, and safeguarding procedures.

As indicated in the feasibility study, some applications will require additional technical assistance and guidance. For projects such as these, PACT will provide project management and execution support as may be needed including financial management, IA coordination and detailed application of the

organization's ESMF when reviewing proposals. In applying its due diligence, PACT will extend the most practical funding options to effectively manage administrative and procedural financing requirements to proposals received.

The EDA funding window modality is appropriately suited for this project since implementation will be conducted collaboratively between national entities and the local organizations that are active in the communities that submit proposals. This means that multiple communities can work jointly with national entities to plan, design and implement specific and localized adaptation interventions that meet their needs. As the community projects can vary between small to medium-sized actions, the use of the EDA modality will reduce the likelihood that communities will be excluded from funding support because of the complexity of their application and limited local expertise. The EDA modality will enable support for adaptive management and the provision of technical and other partnerships support will ensure regulatory compliance and fiduciary diligence during implementation accompany those IA most in need. The use of the EDA modality will also enable greater interest in adaptation interventions by organizations that would traditionally not apply for climate financing because of their institutional size and/or lack of previous experience with climate financing. However, they may now apply during the call for proposal especially if they can demonstrate partnership or joint implementation with a national or lead entity as may be facilitated by the EDA modality. At the same time, the EDA modality strengthens implementation capacities of organizations and entities that are already experienced with this approach for community level interventions. Their experience will bode well should they submit proposals during the call by PACT.

## **B. Economic, Social, and Environmental Benefits of the Project**

### ***Economic Benefits***

The economic benefits of this project are linked to its enabling capacities across all five (5) components. In each of the components, the opportunities to sustain and maintain livelihoods as well as to generate income at the household level are supported. In component one for instance, the protection of water resources will provide economic benefits by improving the consistency of water supply and water quality for agricultural producers, cattle ranchers and ecotourism entrepreneurs. Furthermore, the focus on the Belize River Watershed which supplies water for over 40 per cent of the national population and reaches at least 27 per cent of the agricultural frontier will support improved and sustainable production yields. This improved productivity will enable the growth of jobs and other entrepreneurial activities including value-added services in the BRW and potentially beyond. There are also economic benefits that component two will generate since wildfire prevention and management lends for more beneficial uses of fire and the protection of farms and wildlife habitats. For instance, farmers will be expected to install fire paths around their farms, minimizing losses and increasing yields and products that can be taken to market. The impact of wildfires on ecotourism will also be reduced, thereby reducing disruptions in tourism and related jobs.

The economic benefits are even more significant through actions to promote climate-friendly food production systems based on smart agriculture practices. For women and men, this means having improved technical skills and knowledge for efficient, environmentally friendly production with minimal damage to the environment. This project has significant opportunities to improve the economic well-being of women as well as their abilities to contribute to the economy. The EDA modality will be a driver for the inclusion of women as actions can be further managed and adjusted to account for the additional support and technical assistance that they may need to implement their respective adaptive actions. This means that they will be able to improve their earning and productive capacities in areas where they have been traditionally marginalized and excluded. In component four, enhanced technical competencies and skills to mobilize and expend climate finances can increase funding allocations to traditional and non-traditional partners to augment climate change adaptation and resilience across sectors and stakeholders. The economic benefits from the implementation of component five, will be immediately present as disruption in travel, market, supply chains, education and services will be reduced and alleviated when floods are prevented and have shorter durations in affected areas.

### ***Environmental Benefits***

The environmental benefits of this project will be realized through the implementation of protective and preventive actions with direct impact on the environment. The interventions in the BRW will enable the restoration of vital ecosystems and services. This will result in improved integrity of the ecosystems, biodiversity, soils, and riparian forests. The BRW will be prevented from degradation owing to the institutionalization of sustainable management practices, increased community awareness, education and stewardship. In the BRW and beyond, enhanced, sustainable and climate smart agriculture practices will reduce degradation and erosion and support regeneration of soils, and repopulation by native species, flora and fauna in project areas. There will be improved networking and exchange opportunities to showcase the connectivity of the ecosystems, thereby strengthening actions in project regions that will have direct positive impact on the environment beyond the immediate spheres of impact. This project will focus on minimizing destructive practices including the use of harmful chemicals and unsustainable traditional farming practices which have detrimental effects on ecosystems, biodiversity and the environment. Reducing wildfires protects the natural ecosystem and maintains ecological functionality while also ensuring the maintenance of healthy ecosystems and biological diversity.

PACT will reinforce these economic benefits by ensuring that during sub-project design, the ESMF, and more specifically the environmental and social policies and safeguards, will be applied during proposal assessments to assure environmental benefits for stakeholders. More specifically, Section K below details the screening considerations that will strengthen the safeguarding of these benefits in proposals approved by PACT.

### ***Social Benefits***

The project interventions will reduce the impact of climate change on the most vulnerable populations and communities. Through the proposals approved for component one, the project will strengthen community ownership of adaptation actions that will enable continued benefit from the regulating, provisioning and protection services of the ecosystems around the beneficiary communities. Community members are expected to participate in the formulation and implementation of the related activities which will improve their capacities through joint planning and implementation activities.

The social benefits derived from component one will lend for increased engagement with multiple community groups, including women and youth groups, village councils, water boards, tour guides and tour associations, e-NGOs and schools to mention a few. Component two can improve social benefits as it will support formulation of cooperative fire prevention and management efforts among the local groups. These actions have the potential to expand community spaces that may not always be open to participation by females. Proposals for actions in component two will allow for multiple organizations and stakeholders to participate in learning spaces for fire management and prevention which are generally lacking in the country.

The social benefits of income generation fostered by component three will help to increase spaces for women and other vulnerable groups including youth and indigenous populations to generate incomes and contribute to their households. The project will be supportive of income generating activities that are conducted in the community, these can also help to offset the burden of care-giving that women and girls are typically expected to provide without payment. The project will create livelihood opportunities for farming households in communities across the country, particularly in climate vulnerable areas. Male and female farmers will be supported with sustainable options to expand their livelihoods opportunities. These actions will create a socially acceptable shift toward income streams generated from the sustainable use and protection of natural resources. On the collective level, this component will sponsor business and entrepreneurship training and coaching for established and aspiring entrepreneurs. They will be aided with skills to establish and develop businesses that produce both farm and forest products to build on existing traditional expertise, use, cultural identity and specialisms. In particular, the project will strengthen women and youth participation in landscape regeneration to expand cultivation of local agricultural products that can boost value chain sustainability.

Component four will foster social benefits by promoting a community of practice among stakeholders who have improved climate financing resource mobilization competencies. Stakeholders in this group will participate in a recognized group of local and national professionals who are actively involved in the formulation, design and implementation of climate finance programming and who are networking on a regular basis. Proposals for the improvement in drainage and drainage systems will help to reduce the impact of flooding which will be supported by component five and will reduce physical and social isolation that communities can face during climatic events.



In all components of the project, indigenous populations can benefit from the proposed activities. In component one, indigenous populations will benefit from riparian forest regeneration and water resource safeguarding. Indigenous men, women and by extension their communities who live in the BRW, especially those along the Macal and Mopan Rivers will benefit from water quality management and forest restorations interventions. As fire is used extensively in agricultural production by indigenous Maya communities, they will also benefit from training and technical assistance for wildfire management, regulations and use. Indigenous populations, especially women who cultivate and produce nature-based products for household and market consumption will have access to training, technical assistance and direct support for alternative livelihood options under component three. Indigenous male and female community leaders will also participate in and benefit from climate finance training. As indigenous populations live in some of the most flood prone regions in the country, their communities will also be considered for drainage infrastructure. The project will apply the national Free Prior and Informed Consent Protocol when engaging with indigenous populations and it will also engage with the Belize National Indigenous Council (BENIC) to ensure that interventions are participatory and have the consensus of the beneficiary communities and groups.

### **Gender**

The project will advance the visibility of the gender aspects of climate change and highlight that the capacities for resilience among men as well as women need to be developed. It will also help to promote cultural practices and governance opportunities where both men and women can participate to reduce the vulnerabilities that communities face because of changing weather and climatic events. At the same time, the project interventions will also generate additional economic, social and environmental spaces where women will be trained, mentored and supported to engage in climate adaptation interventions. Women, like men, will be empowered to seek qualification and access education and skills training provided by the project for them to be able to meet the labour and technical requirements that are pertinent for adaptive capacity and resilience building.

Component one will build on the existing roles that women have played as stewards of the environment. This component can assist in strengthening their decision-making roles and responsibilities for forest restoration and the safeguarding of water resources. The actions can also increase the technical and social position of women as local and site-specific monitors of these natural resources. This will further resilience building in the communities as knowledge and awareness of the status of forest and water resources will become more widely known across community groups. These groups will be enabled to respond to changes in their forests and water resources in a timely manner.

Wildfire prevention and management as is supported by component two, will create a formal role and space for women in the communities where these occur frequently. In some communities, women are not

expected to participate in wildfire prevention and management because doing so is not culturally and socially acceptable. However, the project will help to identify roles and responsibilities for the community as a whole and women, like men will be able to contribute toward reducing biodiversity losses, farm and property destruction, and public health threats that wildfires can cause.

Component three of the project will support women's access to new employment opportunities and to financing that will allow for growth of their businesses. These businesses will be supported with technical assistance for climate change adaptation and resilience that will reduce their economic exclusion and marginalization. The project will help to improve women's economic status, which will help to balance the burden of care especially at the household level as assistance with care responsibilities will free women's time for them to pursue income generating options that will improve their resilience to the impacts of climate change and variability.

The project can help to offset the high costs of learning that women may bear for climate adaptation. While they stay longer in school and have higher qualifications than their male counterparts, they generally do not leave the formal education system with the skills and the technical expertise (such as engineering, construction, and electrical trades) needed to implement climate change interventions. Through climate financing training and capacity building, which will be supported by component four of the project, women will have increased access to the requisite skills for climate related networking, project design and implementation, monitoring and reporting.

Women, like men, will benefit from component five of the project as flooding and poor drainage after extreme weather events such as hurricanes and tropical storms affect their livelihoods and income generating opportunities. The installation of proper drainage and drainage systems will improve their mobility, reduce income losses and limit tensions and stress in their households that can exacerbate the power imbalance. Women in rural areas, including indigenous populations will also experience less isolation because of floods. They can also continue to access services and resources without interruption from climate and weather-related events.

### **C. Analysis of the Project's cost-effectiveness**

The analysis of the cost effectiveness of the project is based on the resultant changes anticipated from the execution of the activities and outputs to generate change for the beneficiaries as a function of the investment made when their proposals are approved.

Cost effectiveness of component one is provided from the scientific approach that is undertaken through one of its outputs. By strengthening the capacities for testing water quality in the BRW, the project supports evidence-based planning that will reduce the inefficiency of actions based on unverified analysis on the quality of water in rivers and other freshwater sources. Furthermore, although numerous small-scale

restoration activities have been attempted and completed in the BRW, the capacities of the implementing organizations are limited and do not extend to other communities even after completion of site-specific interventions.

This project will focus on skills and capacity transfer through joint, strategic planning and participatory inclusion of stakeholders to facilitate skills transfer for improved custodianship, communication, community outreach, and monitoring and reporting by the various local level stakeholders. The project will also reduce transaction costs of these restoration activities by strengthening the collaboration between national institutions and local authorities and community-based organizations. In the absence of this project, communities would be expected to individually fund their water restoration efforts, which would be localized although the issue of degradation extends beyond any one community. Single community assessment, monitoring and action implementation can be costly and ineffective in the long term, unlike the whole watershed approach which this project proposes to undertake. **The projected budget costs for the actions under this component is USD \$1,110,000.00.**

In component two, cost effectiveness will be achieved through pilot efforts. As wildfires are common to all areas of the country, the conduct of actions in pilot regions will lend for a full understanding of the extent to which these pilots can be expanded nationally, even at an incremental level. In the absence of this project, the national authorities would be expected to respond to multiple fires especially at the height of wildfire season, typically during the months of March to September. Building the capacity of local organizations and volunteer groups will enable the formation of local level structures such as fire brigades that will provide for response assistance in closer proximity to wildfires and cheaper to operate - with lower transportation and human resource costs. In the absence of support for local firefighters, losses and destruction of properties including farms as well as biodiversity will be greater in the short and medium terms. This could mean higher costs of food, greater household vulnerability and reduced income especially from ecotourism. In the absence of this project component, the capacities of the NFS to reach all affected areas would be significantly challenged. **The budget for this component is US\$1,100,000.00.**

For component three, cost effectiveness will be pursued by enabling job creation and income generation through improved production and the use of natural resources and landscapes. These production systems will reduce destruction to the environment, increase productivity crop yield, reduce waste and maximize the use of time. Effective time use will be particularly important for women whose household chores typically last longer than that of other members of the community. Since these activities will take place in the field and closer to the communities, the costs for formal training and use of public or private spaces in the urban centers will be reduced. This component will enable resources to be directed to the beneficiaries maximizing support to them and ensuring skills transfer to the people who will use them the most without any upfront costs. By creating these opportunities, the project reduces the impact on the ecosystems and also decreases the destruction to the natural environment, especially forests and water systems thereby

negating the need for extensive ecosystem rehabilitation and restoration in the future. **The total allocated sum for this component is US\$1,302,500.00.**

For component four, training and capacity building is an effective way to ensure long term replication of project actions via increased knowledge and skills. Component four creates several opportunities for long-term access to climate finance projects by enhancing the capacity of national institutions to develop, implement and monitor projects and programs. By building climate finance capacities, local technical capacity can be developed to reduce the needs for external and usually costly experts for project development and implementation. This component is overall, a long term investment in capacity building for climate mitigation and adaptation. **The total allocated sum for this component is US\$280,000.00.**

The actions proposed under component five promote the continued protection of communities from the impacts of flooding, which have been amplified under changing climatic events. The construction of proper drainage systems within the target communities decreases the risk to human lives and also protects national infrastructure. As both a preventive and protective feature of the project, the implementation of better drainage systems can decrease the costs of climatic events when durable infrastructure is put in place to alleviate destruction in communities. In the absence of this component, most infrastructure projects are likely to be implemented in urban areas or larger communities where the impact can be greatest. However, this can create a vicious cycle that excludes smaller communities with very little resources to get the attention they also need. Oftentimes, these are the communities with goods and produce destined for the local markets in urban areas. Through this project, implementing local level drainage interventions will also improve the capacity of municipal and village councils to maintain the upkeep of these systems by reducing the costs of replacement owing to poor maintenance. **The total allocated sum for this component is US\$684,820.00.**

### **Beneficiaries**

As this project will have a national focus, the exact number of direct beneficiaries for this project cannot be definitively stated. For the development of the proposal, the beneficiaries constitute the national population which is 430,191. Some of the components, such as components one and two, lend for some more detailed accounting of direct beneficiaries because the regions of focus are more specific, but even here the exact numbers are not yet defined. The interconnectedness of the five (5) components will result in both direct and indirect beneficiaries across the country since climate adaptation efforts in any one area of Belize will invariably impact other areas. The communities and beneficiaries of the project interventions will therefore benefit directly from an interconnected and comprehensive combination of adaptive programming strategies that can positively influence resilience at the household, community and national levels.

Since this project will be implemented under the EDA modality and thus relies on responses to the call for proposals from potential implementing agencies, it is imprecise to provide exact beneficiary numbers and

the geographic areas of focus. In the stakeholder consultations conducted both in person and virtually, the majority of the stakeholders articulated that they endorsed all components of the project, mostly because each is applicable to their communities or area of work. Nonetheless, it is unlikely that each component will be implemented in all six districts and for the entire population. The subsequent section provides a brief, indicative analysis of financial impact on the bases of the component focus, the proposed component envelope and the geographical characteristics of the regions. Some considerations for related, past experience with the component outputs in the area also bear on this brief analysis as summarized in **Table 13**.

Component one, focuses on the Belize River Watershed which covers 29 communities (including major district towns) with a quantifiable population of approximately, 51,271 of which 25,334 are males and 25,937 are females. Since this component has an allocated sum of US\$1,110,000, the cost per beneficiary across the two outputs is US\$21.65.

Component two has a total envelope of US\$1,100,000 including two outputs. As fire management is a concern, across rural Belize, this component is also considered in the context of the whole population benefiting from the inputs. Large scale deforestation and loss of ecosystems caused by fires, pest/disease and improper management will impact Belize's ability to adapt to a changing climate. Incidents of fires have become more pronounced in the country given climate variability which has resulted in changes to the wet and dry seasons. The increases in storm frequency and intensity tend to result in large-scale destruction of natural vegetation, thus increasing the fuel load for fires owing to the large quantity of debris.

As specified by the PACT Concept Note, wildfires pose a threat to the safety of human health in many communities. These communities are often outside of the areas serviced by the National Fire Services (NFS) and will require community level fire management protocols to address their needs.

The Forest Department indicated that clearing and burning of vegetation along power lines has been and continues to be a major cause of forest fires (GONZALEZ, 2020). In 2020, approximately 237 forest fires destroyed tracts of lands in western and southern Belize. The villages where wildfires occurred and where there is need for capacity building and strengthening of skills for first responders are provided by the Forest Department (see feasibility study in Annex 2 **Figure 15**). Indicatively, interventions in Component 2 have the potential to provide the resources needed to manage the forest and grassland fires in these rural areas that are not easily accessible by the NFS. Component two can generate proposals that may focus on the five (5) communities which extend through north, central and southern Belize. Cumulatively, these communities have a quantifiable population of approximately 18,345 of which 9,047 are males and 9,298 are females. This component has an envelope of US\$1,100,000.00 providing for an indicative cost per beneficiary of US\$59.98.

Component three to five will generate interests across the country, potentially in rural and urban communities. Proposals focusing on sustainable food production systems will likely target rural populations where agricultural production predominates. Both rural and urban populations stand to benefit from nature-based businesses. Similarly, proposals for component four, climate finance capacity building are unlikely to have a geographic focus. However, the number of direct beneficiaries for this component will likely be smaller given the total funding allocation and the focus on civil society organizations. For proposals addressing actions in component five, both rural and urban communities stand to benefit. Similar to the latter components, interests in drainage systems may generate proposals from implementing agencies across the country. Given that proposals may come from across the country for actions in components three (US\$1,302,500), four (\$280,000) and five(US\$684,820) the national population (430,191) is used as a reference point to estimate costs per beneficiary per component. Indicatively, this means that the cost per beneficiary is US\$3.23 for component three, US\$0.65 for component four, and US\$1.59 (component five). The beneficiary population for components one and two have a reasonable split between women and men. Similarly, the national population is almost evenly split (215,099 women, 215,092 men) hence, both sexes will benefit generally from the implementation of the project actions.

*Table 13: Beneficiary overview*

Components	Beneficiaries (potential total)	Focus Area	Funding Allocation	Indicative Cost/Capita (In US\$)
<b>1. Safeguarding forests and water resources through strategic protection and restoration solutions</b>	<b>53,034</b>	<b>Belize River Watershed, Cayo District (Macal and Mopan Rivers)</b>	<b>\$1,110,000</b>	21.65
1.1. Restoration strategies developed	53,034	Belize River Watershed	\$425,000	8.01
1.2. Pilot water quality restoration activities in watershed	53,034	Belize River Watershed	\$685,000	12.95
<b>Component 2: Combating wildfires through adaptive management</b>	<b>18,345</b>		<b>\$1,100,000</b>	<b>59.98</b>
2.1. Fire management strategy developed and implemented	18,345	Northern, Central, and Southern Belize	465,000	25.35
2.2. Improved wildfire management for forests and grasslands across Belize	18,345	Northern, Central, and Southern Belize	635,000	76.09
<b>Component 3: Creating opportunities to support alternative livelihoods</b>	<b>430,191</b>	National	<b>\$1,302,500</b>	<b>3.23</b>
3.1. Climate-smart food production system successfully piloted	430,191	National	977,500	2.27
3.2. Nature-based businesses operational	430,191	National	325,000	0.75
<b>Component 4: Building national capacity to access adaption finance</b>	<b>430,191</b>	National	<b>\$280,000</b>	<b>0.65</b>
4.1. Technical Assistance Program Piloted	430,191	National	155,000	0.36

4.2. Awareness raising and knowledge program instituted	430,191	National	125,000	0.29
<b>5. Component 5: Community disaster risk management</b>	<b>430,191</b>	National	<b>\$684,820</b>	<b>1.59</b>
Project Management			<b>\$522,680</b>	
<b>Total</b>	<b>430,191</b>		<b>\$5,000,000</b>	<b>11.62</b>

**Cost-effectiveness by building on existing structures and identified initiatives**

One of the main references for cost effectiveness will be the extent to which the project builds on existing adaptation projects. In particular, the project can create synergies with these projects and programs as detailed in section F. The project will maximize impact, reach and inclusion of populations at greatest risk of climate change impacts. In reaching these populations, the project will develop practices that can be replicated and scaled for other adaptation actions throughout the country. The cost effectiveness of the project is to reduce the cost of learning and practice building among a multitude of stakeholders that can facilitate easier uptake in other areas of the country

*Table 14: Identification of Alternative Adaptation Solutions*

<b>Project Activities</b>	<b>Identification of alternative adaptation scenarios</b>
<b>Component 1: Safeguarding forest and water resources through strategic protection and restoration solutions</b>	
<b>Outcome</b> Water quality improved for watershed in country	The alternative is to continue with the implementation of small-scale community specific activities that are not informed by real-time evidence-based data thereby having limited impact within the expanse of the BRW.
<b>Outcome</b> Increased understanding of climate change impacts visible in communities	The community continues to implement activities that do not reflect a sound understanding of how their practices and behaviours influence the impact of climate change events, hence they do not buy-in to projects and programs because they are unable to make the connections that some local practices and preferences can exacerbate the impact of climate change in the community.
<b>Component 2: Combating wildfires through adaptive management</b>	
<b>Outcome</b> Enhanced protection from fires	The alternative is to rely solely on the response efforts and assistance from the National Fire Service although they may not have the resources to help the community. Continued sole reliance on the NFS is also not sustainable as there are limited resources for training in fire prevention and management in the communities that need this most.
<b>Component 3. Creating opportunities to support alternatives livelihoods</b>	
<b>Outcome</b> Increased livelihoods	The alternative is to rely on the status quo where people continue to cultivate using unsustainable methods that do not produce satisfactory yields, have low resilience for changing weather and climatic patterns, and that rely heavily on inputs that can degrade soil quality. At the same time, income generation and livelihoods from traditional production modes are often gender, which leads to the exclusion of women from economic opportunities that can aid their resilience in the face of climate change.
<b>Outcome</b> Increased numbers of climate smart food production systems	The alternative is to maintain production practices that will impact negatively on forests and biodiversity and deplete soil quality. This will jeopardize national food security and become costly for small holders to maintain their livelihoods.
<b>Component 4. Building national capacity to access adaption finance</b>	

<b>Outcome</b> Increased technical capacity to better access climate finance	The alternative is to rely on international experts which can be expensive to maintain. Reliance on the small pool of national experts is not ideal as this does not sufficiently allow Belize to capitalize on the full offering of climate finance that the country can access.
<b>Component 5. Community Disaster Risk Management</b>	
Increased technical capacity to address flooding	Alternative options for relocation can be exercised but this will be costly and can lead to social unrest and human rights violations.

**D. Project’s Consistency with National or Sub-National Sustainable Development Strategies**

The components of the project have been considered and structured to align with the strategic priorities of national and sectoral development plans. At the national level, the project contributes to the National Climate Change Policy, Strategy and Action Plan that guides the collaborative framework for mainstream climate change adaptation and mitigation across all sectors. In terms of forest restoration and water quality, the project contributes to the implementation of the National Integrated Water Resources Management Policy for Belize which focuses on management of Belize’s water resources. One of the principles of this policy to which the project is aligned is that watersheds and their surface and subterranean linkages to the marine environment are the basic functional units for achieving integrated water resources management. For forest restoration, the project supports compliance with the National Biodiversity Strategy and Action Plan which outlines how to improve environmental stewardship by understanding the importance of marine, freshwater and terrestrial biodiversity and their benefits and values. The NBASP also focuses on reducing the direct and indirect pressure on ecosystems so as to sustain, and enhance the country’s biodiversity and the functional ecosystem services that it provides through capacity building and public participation which is a core tenet of the project. The components of the project are aligned with the National Environmental Policy Strategy and Action Plan, which promotes best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others. In addition, the components support the National Climate Resilience Investment plan to aid the achievement of its expected results to increase resilience of women and men, the economy and environment in Belize to climate variability and climate change. This gives the opportunity to build climate resilience and capacity to improve disaster risk management across all sectors in Belize with particular reference to: Technical Data & Knowledge Transfer; Physical Interventions; Non-Physical Interventions; Policy & Regulatory frameworks; and National Climate Resilience Investment Plan (NCRIP) coordination, monitoring & evaluation.

The NDCs are the national commitment that Belize made to act on climate change as part of the Paris Agreement of 2015 and as agreed on by 193 member states of the UN. Belize’s NDCs are aligned with the overall goal of the Plan Belize Medium-Term Development Strategy. The targets and actions reflect sector policies, strategies and plans relevant to climate change mitigation and adaptation. Important contributions



by this project are linked to sectoral targets: 7.2.2 Agriculture, 7.2.4 Human Health, 7.2.6 Forestry and biodiversity, 7.2.7 Land use, human settlements and infrastructure, and 7.2.8 water resources. A summary description of the alignment of components with national development strategies is further documented below in **Table 15**.

*Table 15: Component Direct Linkage to National Policies and Plans*

Project Outcomes	Policy / Plan	Description
<p>Water quality improved for watershed in country</p> <p>Increased understanding of climate change impacts visible in communities</p>	<p>National Integrated Water Resources Management Policy for Belize</p>	<p>This policy focuses on guiding the management of Belize’s water resources. The principles of the policy include that: 1. Water is finite and is a vulnerable natural resource, essential to sustain life, the environment, the economy and national development; 2. Water, as a national resource, belongs to the people of Belize, now and forever; 3. Water is vested in the state that is the guardian and guarantor of water rights; 4. The state governs, manages and promotes rational use of the water resources for the benefit of the Belizean people at all times; 5. Access to safe and affordable water is a fundamental right of all Belizeans and the water availability is directly correlated to level of health and poverty; 6. Watersheds and their surface and subterranean linkages to the marine environment are the basic functional units for achieving integrated water resources management; 7. Water has an economic value and the “user pays” principle is integral in ensuring the sustainability of the resource; 8. Water has equity value and water rights are allocated by the state and are tradable; and 9 Global climate change, climate variability and land use will have impacts on the availability and use of water resources.</p>
	<p>National Biodiversity Strategy and Action Plan</p>	<p>The National Biodiversity Strategy and Action Plan (NBSAP) details the core strategies and actions to conserve Belize’s biodiversity stock and resources that is in harmony with improved quality of life and livelihoods. The NBSAP strategies and activities outline how to improve environmental stewardship by understanding the importance of marine, freshwater and terrestrial biodiversity and their benefits and values. The NBASP also focuses on reducing the direct and indirect pressure on ecosystems so as to sustain, and enhance the country’s biodiversity and the functional ecosystem services that it provides through capacity building and public participation.</p>
	<p>National Environmental Policy and Strategy 2014-2024</p>	<p>The National Environmental Policy (NEP) centers on environmental sustainability, and the sound management of natural resources and the environment for sustainable alternative livelihood opportunities for Belize. The NEP and its attendant priorities and action plans are premised on addressing the existing environmental challenges, institutional capacities and resource deficits. The NEP promotes best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others.</p>
	<p>National Agroforestry Policy</p>	<p>The vision of the Agroforestry Policy is to mainstream the use of agroforestry systems that are productive, competitive and adoptable by small, medium-size, large and commercial farmers, producers and land users. The Agroforestry Policy will enhance</p>

		<p>food production and reach food security while at the same time conserving the natural resources which will contribute to the improvement of the environment and subsequently decrease greenhouse gas emissions. It will also strengthen the resilience of the agricultural sector to climate change.</p> <p>The objectives of this policy are to improve productivity, resilience and sustainability of agriculture and forestry through the adoption of agroforestry systems that promote improved livelihood and wellbeing of the present and future generations, with particular attention to substantively include the youth, women, Mayan peoples and other impoverished populations in Belize. Additionally, the policy proposes and advocates for enabling legislation, legislative reforms, complementary policies that allow for greater alignment and synergies among the relevant sectors, institutions and programs for its widespread adoption and implementation (GoB, 2020).</p>
	Forest Policy	<p>The Forest Policy seeks “a thriving and integrated forest sector, where forests of Belize are valued for their significant economic, socio-cultural and environmental benefits and are sustainably managed for the lasting benefit of the nation”. Recognizing the critical value of forests to sustainable development, land use, sustainable forest management, biodiversity conservation, wildlife and protected areas management in Belize, the policy gives direction to ensure compatibility with the nation’s economic development, to create and maintain the national forest estate taking into consideration the need for agricultural development and the protection of the environment. The Forest Policy is grounded in the Constitution of Belize and responds to the Belize National Planning Framework- Horizon 2030 (FOREST DEPARTMENT, 2015).</p>
	The National Solid Waste Management Policy	<p>This policy addresses the management of solid waste so as to ensure that the system of managing these waste is both financially and environmentally sustainable and doesn’t interfere with the quality of life of the people.</p>
	Nationally Determined Contributions	<p>The NDCs are the national commitment that Belize made to act on climate change as part of the Paris Agreement of 2015 and as agreed on by 193 member states of the UN. Belize’s NDCs are aligned with the overall goal of the Growth and Sustainable Development Strategy (GSDS) which encompasses medium-term economic development, poverty reduction, and longer term sustainable development goals and enabling conditions.</p>
	National Climate Change Policy, Strategy and Action Plan	<p>The policy provides guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies and sectors. It also contributes towards the development of the Nationally Determined Contributions (NDCs) of the country.</p>
	Plan Belize	<p>Plan Belize (BLU#planBelize, 2020) is guided by a deep commitment to social, economic and environmental justice.<sup>6</sup> This plan is built to promote synergy across government ministries, civil society, communities and external partners to implement the</p>

<sup>6</sup> Plan Belize (BLU#planBelize) was launched in 2020 as a public declaration with a mission, vision and set actions

		six strategic goals (1. Poverty Reduction, 2. Economic Transformation and Growth, 3. Trade deficit reduction, 4. Citizen Security, 5. Protection of the Environment and 6. Stop Corruption). The aim is that integrated delivery of Plan Belize will lend for substantive measurement, and reporting of the results and outcomes, annually, and impact every 3 - 5 years. The feedback loop from reporting and monitoring should inform resource mobilization, investments, grants and in-kind contributions from all stakeholders for the achievement of the revised plan.
	National Landscape Restoration Strategy	The National Landscape Restoration Strategy set out the vision, mission, key result areas, strategic objectives and actions that are necessary to ensure that Belize meets or surpasses its Bonn Challenge pledge to restore 130 000 hectares of prioritized forest and agricultural landscapes by 2030. The mission of the strategy is to conduct forest and agricultural landscape restoration initiatives within priority areas, via the creation of the enabling environment (policies/laws), local collaboration and broad partnerships, sharing lessons learnt and experiences and mobilizing resources, for the benefit of all Belizeans, but with a particular focus on building the capacity of farmers, rural and indigenous people and relevant institutions.
	Plan Belize	Plan Belize (BLU#planBelize, 2020) is guided by a deep commitment to social, economic and environmental justice. <sup>7</sup> This plan is built to promote synergy across government ministries, civil society, communities and external partners to implement the six strategic goals (1. Poverty Reduction, 2. Economic Transformation and Growth, 3. Trade deficit reduction, 4. Citizen Security, 5. Protection of the Environment and 6. Stop Corruption). The aim is that integrated delivery of Plan Belize will lend for substantive measurement, and reporting of the results and outcomes, annually, and impact every 3 - 5 years. The feedback loop from reporting and monitoring should inform resource mobilization, investments, grants and in-kind contributions from all stakeholders for the achievement of the revised plan.
	Nationally Determined Contributions	The NDCs are the national commitment that Belize made to act on climate change as part of the Paris Agreement of 2015 and as agreed on by 193 member states of the UN. Belize's NDCs are aligned with the overall goal of the Growth and Sustainable Development Strategy (GSDS) The targets and actions reflect sector policies, strategies and plans relevant to climate change mitigation and adaptation. Important contributions by this project are linked to sectoral targets: 7.2.2 Agriculture, 7.2.4 Human Health, 7.2.6 Forestry and biodiversity, 7.2.7 Land use, human settlements and infrastructure, and 7.2.8 water resources.

for transformation from party politics for winning an election to the Government of Belize Plan for growth of the nation.

<sup>7</sup> Plan Belize (BLU#planBelize) was launched in 2020 as a public declaration with a mission, vision and set actions for transformation from party politics for winning an election to the Government of Belize Plan for growth of the nation.

	National Climate Change Policy, Strategy and Action Plan	The policy provides guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies and sectors. It also contributes towards the development of the Nationally Determined Contributions (NDCs) of the country.
	National Climate Resilience Investment Plan	The national climate resilience investment plan will result in increasing resilience of women and men, the economy and environment in Belize to climate variability and climate change. The plan will also articulate strategies for adaptation to climate change, reduce poverty and enhance economic growth for sustainable development. This gives the opportunity of building climate resilience and capacity to improve disaster risk management across all sectors in Belize. Specific to climate adaptation the plan refers to: Technical Data & Knowledge Transfer; Physical Interventions; Non-Physical Intervention; Policy & Regulatory; and National Climate Resilience Investment Plan (NCRIP) coordination, monitoring & evaluation.
	Forest Policy	The Forest Policy seeks “a thriving and integrated forest sector, where forests of Belize are valued for their significant economic, socio-cultural and environmental benefits and are sustainably managed for the lasting benefit of the nation”. Recognizing the critical value of forests to sustainable development, land use, sustainable forest management, biodiversity conservation, wildlife and protected areas management in Belize, the policy gives direction to ensure compatibility with the nation’s economic development, to create and maintain the national forest estate taking into consideration the need for agricultural development and the protection of the environment. The Forest Policy is grounded in the Constitution of Belize and responds to the Belize National Planning Framework- Horizon 2030 (FOREST DEPARTMENT, 2015).
	National Biodiversity Strategy and Action Plan	The National Biodiversity Strategy and Action Plan (NBSAP) details the core strategies and actions to conserve Belize’s biodiversity stock and resources that is in harmony with improved quality of life and livelihoods. The NBSAP strategies and activities outline how to improve environmental stewardship by understanding the importance of marine, freshwater and terrestrial biodiversity and their benefits and values. The NBASP also focuses on reducing the direct and indirect pressure on ecosystems so as to sustain, and enhance the country’s biodiversity and the functional ecosystem services that it provides through capacity building and public participation.
Increased livelihoods  Increased numbers of climate smart food production systems	Food and Agriculture Policy	The National Agricultural and Food Policy seeks to promote home food production utilizing backyard container gardening technologies. It also seeks to develop and implement programs targeted for women within the agriculture sector to become a support for family agriculture and home gardening through production of home goods.
	Horizon 2030	Horizon 2030 is the national development framework that guides the long-term development priorities which the country aspires to reach as a result of targeted investment and policy outcomes. This national development framework is underpinned by seven thematic areas that falls under three (3) main themes: Future

		Development, with a focus on Democratic Governance as a foundation for development, Citizen Security and Access to Justice; Education for Development with a focus on education for life; Binding constraints- generating resources for long term development with a focus on, building a resilient economy and on key productive sectors; and, the Bricks and the Mortar- the Core of the Long-term Development Framework which are, healthy citizens throughout the life cycle and care for the natural environment.
	Medium-term Development strategy	The Medium-term Development Strategy (MTDS) operationalizes the development trajectory for Belize over the next three years from 2021 to 2025 Accompanying actions include reducing unemployment in Belize, increasing exports while simultaneously reducing imports, reducing crime, safeguarding natural resources, and carrying out anti-corruption political reforms. The MTDS is overseen and coordinated by the Ministry of Economic Development.
	MSME Strategy and Roadmap for Belize	The strategy and roadmap aims to foster the creation of a vibrant, competitive and supportive MSME ecosystem that facilitates entrepreneurship, job creation, scaling, value added products and services, and exports.
	National Development framework 2020-2030	The policy seeks to establish a public framework to direct domestic and foreign investments. The goal of the policy is to establish with greater certainty and predictability the general directions toward economic development and how citizens can participate and benefit from this through investment.
Increased technical capacity to better access climate finance	National Climate Change Policy, Strategy and Action Plan	The policy, strategy and action plan outlines the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development. It provides the joint collaborative framework for all other sectoral policies and contributes towards the development of the Nationally Determined Contributions (NDCs) of the country.
Increased technical capacity to address flooding	National Hazard Mitigation Policy 2004	The National Hazard Mitigation Policy is a comprehensive policy that guides activities relating to the mitigation of natural and technological hazards that do not currently exist in the country. It provides an integrated approach to hazard risk management and sustainable development at all levels of society. The policy provides a benchmark for stakeholder cooperation to actively address hazard reduction issues within the ambience of development planning, and as a way to avoid incalculable and irrecoverable damages to the environment including social and economic development. The policy also emphasizes building national capacities to reduce the country's vulnerability towards these hazards.
	National Environmental Policy and Strategy 2014-2024	The National Environmental Policy (NEP) centers on environmental sustainability, and the sound management of natural resources and the environment for sustainable alternative livelihood opportunities for Belize. The NEP and its attendant priorities and action plans are premised on addressing the existing environmental challenges, institutional capacities and resource deficits. The NEP promotes best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others.

	The National Solid Waste Management Policy	This policy addresses the management of solid waste so as to ensure that the system of managing these waste is both financially and environmentally sustainable and doesn't interfere with the quality of life of the people.
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Table 16: The lead institutions for the AF Project and Legislative Framework

Agencies	Portfolio Responsibility	Legislation/Regulation
<b>Component 1. Safeguarding forest and water resources through strategic protection and restoration solutions</b>		
<i>Protected Areas Conservation Trust (PACT)</i>	Protected Areas Conservation financing	Protected Areas Conservation Trust Act Cap 218
National Hydrological Service	Water Management and Water Quality	National Integrated Water Management Act The Environmental Protection Act Chapter 328
Belize Forest Department	Forest Restoration	Forest Act, Chp.13. Revised Edition 2000
<i>Ministry of Agriculture, Food Security &amp; Enterprise</i>	Forest Restoration and extension	Forest Act, Chp.13. Revised Edition 2000
<b>Component 2. Combating wildfires through adaptive management</b>		
<i>Belize Forest Department</i>	Forest Fire Management	Forest Act, Chp.13. Revised Edition 2000
<i>National Fire Service</i>	Forest Fire Management and capacity building	National Fire Act and Fire Brigades Act
<b>Component 3. Creating opportunities to support alternative livelihoods</b>		
<i>BELTRAIDE Ministry of Economic Development</i>	SBDC Belize - Small business development	Belize Trade and Development Service Act, 2019
Town Council	Small business development and strengthening	Town Council Act, Revised Edition 2000
Village Council	Small business development and strengthening	Village Council Act , Revised Edition 2000
<i>Ministry of Agriculture, Food Security &amp; Enterprise</i>	Agricultural extension (food production)	National Agriculture and Food Policy, 2015 -2030
<b>Component 4. Building national capacity to access adaption finance</b>		
<i>National Climate Change Office (NCCO)</i>	Climate Change	N/A
<i>Climate Finance Unit</i>	Climate Change Financing	N/A
<b>Component 5. Community disaster risk management</b>		
NEMO	Disaster Risk Management	Disaster Preparedness and Response Act 2000
Ministry of Works	Infrastructure	Belize Building Act 2017
Town Council	Disaster Risk Management & Infrastructure	Town Council Act
Village Council	Disaster Risk Management & Infrastructure	Village Council Act

## E. Project's Compliance with Relevant National Technical Standards

As part of the application process for grant awards by the project, potential implementing agencies will be expected to secure and produce all permits and regulatory approvals for the sub-project activities. Entities

will be required to elaborate on the sub-project's adherence to national and international technical standards during the submission of proposals under PACT's EDA Call for Proposals.

The project screening process and monitoring actions will ensure that all activities adhere to the national regulations and comply with sector specific requirements and standards. In terms of safeguarding forests and water resources, the project will ensure compliance with nationally established protocols established by the Department of Environment (DOE) for the assessment of water quality in the selected water systems. The associated parameters sanctioned by the DOE will serve as the benchmarks by which to document and determine the status of water resources in the BRW. The officially established and accepted ecological parameters for flora and fauna will inform and guide national assessments and strategy development.

Technical standards will also be extended to the procurement of goods and services, ensuring that all equipment comply with environmental standards to control for pollution and energy efficiency. These procurement standards will assure that value for money principles meet with environmental and sustainability benchmarks that will sustain the life of project inputs. Additionally, applicable technical standards will be applied to soil and land management adhering to the use of chemicals, protection of riverbanks, fire paths, construction waste disposal and product marketing and labelling of value-added products.

Engineering and roadwork specifications will be applied during construction of drains and drainage systems. This will ensure compliance with national building codes, measures for structural integrity and public safety. Maintenance of construction standards is consistent with ensuring the sustainability of the sub-project activities and climate adaptation.

#### **F. Potential Duplication with Other Funding Sources**

This project proposes to implement recommendations from previous assessments and studies. In components one and three for instance, the outputs of the project will execute efforts to reduce deforestation in the Belize River Watershed to respond to studies that indicate the decline in water quality in BRW as emanating from land degradation, pesticide use and the expansion of commercial agriculture. The Government of Belize is in receipt of round six funding from the Global Environment Facility (GEF 6) to implement the project on Integrated management of production landscapes to deliver multiple global environmental benefits. The GEF funded project is similar in size to this project and is concentrated in the BRW. One outcome of the GEF project slightly mirrors component one of this project and that is to increase the ability of the government to implement strategies for conservation and sustainable land and water management in production landscapes. Of note, however this project enables significant synergy with the GEF6 project by focusing on the production of foundational actions in communities that will enable them to better participate and engage with the GEF 6 project, thereby substantially increasing the adaptive capacity of vulnerable groups in the BRW.

The project can also build on the preliminary assessment completed under the Forest Landscape Restoration (FLR) and Restoration Opportunities Assessment Methodology (ROAM) Project currently under implementation by the Belize Forest Department with funding from the IUCN, KFW, and GIZ among others. The main goal of the project is to assess national drivers of degradation and devise functional landscape restoration processes and strategies. The project can support expansion of ROAM to protect water resources, biodiversity and ecological functionality in the areas that are not prioritized.

In other areas, specifically livelihood and income generation, the project can expand on the Ya'axche model for agroforestry in new areas and for other vulnerable populations including in the Toledo, Belize, Cayo and Stann Creek Districts. Additionally, the project will focus on building capacity for nature-based businesses and transformative food production systems that will expand the existing agricultural outputs that already exist in the country. There is no duplication of fire management projects since this is an area that is still underserved owing to the limited capacity and resources of the National Fire Service. This project will strengthen the rural reach of the NFS. Technical skills and training for competencies in climate finance are still at nascent stages and the project will significantly improve coverage in this area. There are ongoing infrastructure projects such as road and bridge construction but these are not yet sufficient to reach rural and small communities that are regularly affected by extreme weather conditions.

The Global Environment Facility Small Grants Program is currently implementing the “Building Capacities in Forest Fire Management Among Indigenous Peoples and Local Communities in Belize” with the Toledo Institute for Development and the Environment. The project is to contribute to safeguarding Belize’s biodiversity through empowering Indigenous peoples and local communities for effective forest fire management. This project is a continuation of TIDE’s fire management program and will build capacities in indigenous communities in Toledo to address the threat of wildfires through physical fire management training and improved public awareness of the importance of fire management. As this is a project specific to the Toledo District, it can promote lessons learned and opportunities for expansion under the BCRTA project.

The AF may soon be funding the project “Enhancing the Resilience of Belize’s Coastal Communities to Climate Change Impacts” which aims to address the high vulnerability of Belize’s coastal communities through a multi-sector and systemic approach to building coastal resiliency, including local and national knowledge and capacity building approach for ensuring long-term sustainability. The project has four (4) components including: Component 1: Improving coastal land use for resilient habitation and sectoral activities; Component 2: Coastal vulnerability monitoring; Component 3: Beach stabilization of high-risk coastal areas; and Component 4: Awareness raising, knowledge dissemination and capacity-strengthening. The BCRTA can be seen as a complementary project with focus on inland and terrestrial climate resilience.



### **G. Project's Learning and Knowledge Management Component to Capture and Disseminate Lessons Learned.**

The project will enable exchange of knowledge and practice among stakeholders and beneficiary participants. In consultations during project development, stakeholders voiced concerns about isolation from other groups and organizations that were engaged in similar initiatives and projects. The project therefore will support the creation of communities of practice and networks to promote information sharing, pilot activities, technical data and lessons learned especially from field activities. This kind of sharing can be done within and across project districts and beneficiary communities. The project can also explore formulation of technical exchange groups or technical advisory groups which can function to disseminate knowledge and progress with project activities. These spaces can facilitate the permeation of best practices and lessons learned based on project activities conducted. This project has the potential to foster user groups and exchanges for sustainability of the sub-project actions.

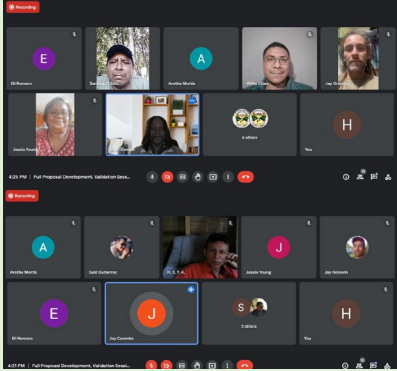
The project will also use lessons learned to strength awareness of climate adaptation, particularly focusing on creating and implementing community-wide information sharing and training sessions across the components, for example in component two, wildfire prevention and management; component three, transformative food production and nature-based businesses, and component four climate change financing skills development and preventive flooding actions of component five. The project will support production of communication and information materials that demonstrate mainstreaming of the proposed actions as part of daily activities for household and whole community resilience. This approach to knowledge transfer for adaptation will support greater ease for communities to undertake and accept actions that promote resilience to climate change. Whole community learning will be supported and systematized through networks, from social processes of collaboration, sharing knowledge, and building on one another's ideas. These processes will be systematized in order to pass knowledge assets between people or systems.

### **H. The Consultation Process**

The project has been designed based on the validation of the pre-existing knowledge and ideas of the outcomes of the consultation at the community and governmental level. A series of consultations were conducted throughout the western- Central and Southern part of the country. These consultations were held to gather information and validate the proposed activities established within the project proposal. A feasibility study and gender assessment were conducted to determine the extent by which the social, economic, technical and environmental factors of each to the five (5) project components will build resilience for climate adaptation across multiple communities.

*Table 1 : Initial consultation outcomes and conclusions*

Stakeholder/Community	Objective of Session	Outcome	Evidence
Leading Agency & Firm September 2022	Inception presentation and how the proposal documentation will be developed	Relevant information was shared and obtained that will be integrated into the development of the proposal	
Civil society, NGOs and public servants  October 19th 2022	To inform and validate the results found from the feasibility study and gender assessment	Results were validated and accepted by stakeholders	
Civil society December 1st 2022	To validate the proposed actions and activities for each component within the project proposal, gender action plan etc.	Challenges under each components were identified by stakeholders and relevant recommendation was identified thus validating the activities proposed under each component on the project	
Civil society December 3rd 2022			
Government agencies, civil society, private sector and finance institutions December 22, 2022	To validate the proposed actions and activities for each component within the project proposal, gender action plan etc.	<p>Validation of components as well as reiterating the need for assistance and partnerships to develop proposals for communities that need the actions the most.</p> <p>A poll on priority regions of focus was conducted using Mentimeter.</p>	
Leading Agency & Firm September 2022	Inception presentation and how the proposal documentation will be developed	Relevant information was shared and obtained that will be integrated into the development of the proposal	

<p>Civil society, NGOs and public servants</p> <p>October 19th 2022</p>	<p>To inform and validate the results found from the feasibility study and gender assessment</p>	<p>Results were validated and accepted by stakeholders</p>	
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The consultations were planned to last between five and six hours for face-to-face sessions. The virtual sessions were planned to last no more than three hours. All sessions included a presentation which explained the finding of the feasibility study for the five components and the gender assessment. During the consultations, the stakeholders discussed each component, sought clarifications and justified the need for the components to be implemented in their respective communities and districts. Stakeholders provided feedback to assist with the determination of the baseline data, risk assessment, gender considerations, and sustainability measures for each of the components. Furthermore, they elaborated on the project proposal development and offered feedback to the actions that were previously identified at the concept development stage. At the end of the consultations, they validated the components and the activities proposed.

**I. Justification for Funding Requested, Focusing on the Full Cost of Adaptation Reasoning.**

*Table 18: Funding Justification*

Expected Result	Baseline Data	Additional with AF	Adaptation Reasoning
<b>Component 1: Safeguarding forest and water resources through strategic protection and restoration solutions</b>			
<p><b>Outcome</b> Water quality improved for watershed in country</p>	<p>Monitoring of water quality in the BRW is not conducted regularly and in a systematic manner to support local efforts at the community or watershed level</p>	<p>A strategy for the riparian forest restoration</p>	<p>With a strategy in place, the riparian forest in the BRW will be better managed and the communities will experience less pollution of water resources. The quality of soils and biodiversity in the area will improve and ecosystem services and functions will be restored to offset some of the damage that climatic events can cause. The community will also have increased awareness, knowledge and skills to undertake stewardship actions in the BRW. Since these water resources serve almost half of the Belizean population, water quality for public health will be better maintained after climatic events.</p>
<p><b>Outcome</b> Increased understanding of climate change impacts visible in communities</p>			
<b>Component 2: Combating wildfires through adaptive management</b>			

<b>Outcome</b> Enhanced protection from fires	A National Fire Service that is challenged and under-resourced to manage and respond to wildfires	Three (3) Community Fire Brigades piloted	The piloting of the fire brigades will facilitate the cascading of fire management and response at the community level. Critically, it will enable quick response to fires as they occur in these areas. This will reduce the loss of biodiversity, habitats, farms that could lead to food shortage. Adaptation to rising temperatures will also be advanced as the brigades undertake preventive measures in their respective areas including community education and outreach, preparation of fire patch and elimination of fire loads from natural and man-made sources.
<b>Component 3. Creating opportunities to support alternative livelihoods</b>			
<b>Outcome</b> Increased livelihoods	Traditional livelihoods and income generating activities are increasingly impacting natural resources and land with diminishing returns to households	Alternative livelihood and income generating options using nature-based products and production supported in target communities	The adaptation measures here will improve people's income earning capacity so that they have resources needed to strengthen household resilience to climate events. This component will allow for improved sustainable agricultural production and yields that will strengthen food security and positively impact cost of living especially for rural populations, women and youth. Climate smart production will support managed and limited disruption to production and markets resulting from climatic events.
<b>Outcome</b> Increased numbers of climate smart food production systems			
<b>Component 4. Building national capacity to access adaption finance</b>			
<b>Outcome</b> Increased technical capacity to better access climate finance	Limited, insufficient and disjointed capacities to develop and implement proposals to respond to climate change	Enhanced network of skilled and competent climate financing specialists	This adaptation support will grow the human resources and capabilities needed to improve access and use of climate financing that contribute to national strategies and policies as well as global commitments for climate change.
<b>Component 5. Community disaster risk management</b>			
<b>Outcome</b> Increased technical capacity to address flooding	Insufficient and inadequate drains and drainage systems especially in communities prone to flooding.	Installation of physical infrastructure that improves drainage and flood management	Floods immediately impact and affect households and communities during intense weather and climatic events. The adaptation measure here will reduce the physical, economic and mental toll that rising waters can cause. This project will reduce isolation of communities and populations so that they can access support and assistance during flood events.

**J. Sustainability of the Project**

Table 19: Overview of arrangements for sustainability

<b>Expected Outcome</b>	<b>Concrete</b>	<b>Arrangements to sustain / maintain activities / interventions</b>
Water quality improved for watershed in country		A whole approach to watershed assessment and restoration in this component will invariably strengthen sustainability of the activities and interventions. The application of strategic interventions based on their joint identification and subsequent implementation with multiple communities will also strengthen

	ownership for the results of the interventions. The scientific generation of data and its use for the development of interventions across the watershed and more specially for target rivers, will also build confidence among communities since this can serve as a strong basis for technical assistance and attention in the project regions.
Increased understanding of climate change impacts visible in communities	The direct link between the restorative activities and the quality of life among beneficiaries will generate self-sustaining efforts in communities. The community members and beneficiaries will have access to data that inform the status of their water resources. They will also learn how to conduct some assessments on their own so that they can take preventive actions, inform authorities in a timely manner and develop and implement specific actions at the community level. The formation of networks and engagement spaces to share information and best practices will also contribute toward sustainable ownership of activities conducted during project implementation.
Enhanced protection from fires	In this component, the benefits of regulatory strengthening, updating and strategy implementation will lend for sustained practices at the local and national levels. These actions will enable the systematization of fire prevention and management practices through standardized mechanisms. The provision of equipment and resources in areas most prone to wildfires and among populations most affected will lend for vigilance and quick response among stakeholders. Training activities to build technical knowledge and linkages with climate change will also strengthen sustained activities.
Increased livelihoods	The project will support the institutionalization of practices, technical knowledge that beneficiaries and stakeholders can immediately apply to improve their standard of living and livelihoods. Maintenance and upkeep of these activities will be enabled because the resources needed will not be solely external to beneficiaries but can be sourced and used within their environment. Ongoing technical assistance and support for the duration of the project and beyond will build technical confidence among the beneficiaries. The resulting yields and production levels will also support the use of transformative practices.
Increased numbers of climate smart food production systems	The project proposes to implement the actions under this component in close partnership with technical specialists from lead entities including IICA and the Ministry of Agriculture. In training and supporting stakeholders from civil society, non-governmental and producer organizations on these systems they will build on field outreach support and engagements that will strengthen partnerships with stakeholder and improve their access to technical assistance beyond the duration of the project actions.
Increased technical capacity to better access climate finance	The consultations with stakeholders have informed that communities and community-based organizations need support even after the completion of project actions. The project therefore is supportive of intra-district and inter-district networks to reinforce networking and learning spaces among implementing agencies. Training and capacity building efforts will also improve local level ownership of projects since they will have hands-on experience fully designing the actions to meet their specific adaptation needs.
Increased technical capacity to address flooding	The project promotes the establishment of partnerships between communities and implementing entities with the relevant national authorities (for example, CBA, MIDH, NEMO) to ensure that building standards and codes are met. This partnership along with the equipment inputs of the project will also enable technical skills and knowledge transfer for the upkeep of drains and drainage systems to reasonably prevent catastrophes because of flood waters.

**K. Overview of the Environmental and Social Impacts and Risks Identified**

Given that this project will be funded under EDA modality which supports on-granting, the specific environmental and social impacts are not yet available since these will be assessed based on the individual proposals submitted to PACT. At the same time however, PACT will ensure the full use of its ESMF,

inclusive of its social and environmental screening systems to assure that impacts are minimal or avoided in all of the proposals funded by this project.

Executing entities for proposals funded through this project will be required by PACT to undertake environmental and social risks and assessments and safeguard compliance that are outlined in its environmental and social screening standards (ESSS). The extent of the assessments will be proportional to the anticipated and identified risks and impacts during the screening process. Based on the expected outputs in each of the components and the allocated sums, category A type activities, are activities that are anticipated to have significant environmental and social impacts are not expected during the call for proposals. Category B and C activities which have limited impact and which have no expected significant environmental and social impacts are expected and will be subjected to the application of the appropriate mitigation, monitoring and reporting measures that are outlined in the PACT ESMF.

*Table 20: Environmental and Social Assessment*

<b>Checklist of environmental and social principles</b>	<b>No further assessment required for compliance</b>	<b>Potential impacts and risks – further assessment and management required for compliance</b>
<i>Compliance with the Law</i>	X	Low/No risk The project documents and outlines activities that are fully compliant with national legislation and standards of international law. The PACT ESMF and the accompanying project feasibility have been developed to support knowledge and awareness of legal and regulatory compliance.
<i>Access and Equity</i>	X	Low/No Risk The project is premised on the basis that climate change resilience and adaptation is improved and maintained when the most vulnerable communities and groups have access to, and equitable share of, national resources and support to offset the impacts of climatic events. Access to these resources has been initiated through consultations so that a wide cross-section of stakeholders who know of potential funding for proposals under this grant. The focus on hard to reach, isolated and least served populations will ensure that no one is left behind. Equity will also be assured through the provision of the technical and other assistance so that proposals are successfully executed and completed.
<i>Marginalized and Vulnerable Groups</i>	X	Low/Moderate Risk This project will not exacerbate or impose the further marginalization of already vulnerable groups including, women, children, people living with a disability, the rural poor, indigenous peoples, the elderly and LGBTQI populations. This project is aimed at reducing the existing vulnerabilities they face and made worse by climatic events. However, agriculture, forest management and some areas of entrepreneurship are still dominated by men and inherent biases to meet their needs first, can marginalize women and other vulnerable populations.
<i>Human Rights</i>	X	Low/No Risk The project will uphold economic, social and cultural rights that can be threatened by climate change and variability. The right to health, work, clean water, non-discrimination and life are some of the main rights that will be advanced through the implementation of this project. The right to gender equality will be maintained and supported across all components of the project. The project will adhere to FPIC and climate change actions and commitments to which Belize is obligated. As all SDGs are underpinned by

		human rights, the project will contribute to SDG 1 No Poverty, 2 Zero Hunger, 3 Good Health and Well-being , 5 Gender Equality, 8 Decent Work and Economic Growth, 11 Sustainable Cities and Communities, 12 Responsible Consumption and Production and 15 Life on Land.
<i>Gender Equity and Women's Empowerment</i>	X	Low/Medium risk The project will support women and girl inclusion and participation as a standard in all proposals funded. This means that executing entities will actively engage with women and include the contributions of gender specialists and experts in the design and implementation of actions. The project will adhere to cultural practices and traditions to the extent that these do not undermine the rights of women and girls. As may be deemed necessary, some actions may be developed specifically for women to close gaps in results and to ensure equity of benefits to them.
<i>Core Labour Rights</i>		Low/No Risk The project will abide by the labour laws and employee rights and protection in the workplace and in the conduct of their work-related duties.
<i>Involuntary Resettlement</i>	X	Low/No Risk No involuntary resettlement is expected during the implementation of the project.
<i>Indigenous Peoples</i>	X	Low/No Risk Indigenous peoples are expected to be among the beneficiaries of this project. ALL proposals will therefore undergo screening assessment to ensure that they are not adversely affected by any actions. Where Mayan communities are involved the National FPIC Protocol as mandated through the office of the Indigenous Peoples Commissioner will be applied to facilitate dialogue, information sharing and consent as provided therein.
<i>Protection of Natural Habitats</i>	X	Low/ No Risk The project aims at restoring natural resources including rivers and freshwater resources, biodiversity and forests. Increased and informed community participation and education will also advance protection of natural habitats.
<i>Conservation of Biological Diversity</i>	X	Low/No Risk No activity under this project will pose any threat to biodiversity or exacerbate existing threats. Proposals submitted will be subjected to screenings and assessments to reduce or eliminate risks to biodiversity.
<i>Climate Change</i>	X	Low/No Risks This project supports national efforts to build resilience to climate change. All components of the project focus on building competencies, skills, and material resources that can reduce the impacts that climate change can have on communities and households.
<i>Pollution Prevention and Resource Efficiency</i>	X	Low/No Risks No residual or direct outputs of the project will contribute to pollution. The project will instead focus on efficiency in land use for agricultural production. The application of climate smart agriculture and forest restoration activities will contribute to pollution prevention. Although infrastructure construction will be implemented, efforts to ensure proper disposal of construction waste and environmentally and energy saving building practices will be encouraged and supported
<i>Public Health</i>	X	Low/No Risk There are no expected public health threats or challenges associated with this project. The project will promote public health through conservation and restoration of natural resources that promote public and mental health.
<i>Physical and Cultural Heritage</i>	X	Low/No Risk No risks to physical heritage are anticipated in this project. At the same time, some cultural practices including production practices and gender mainstreaming efforts can challenge existing and accepted cultural practices, especially those that prevent women from working and earning an income.
<i>Lands and Soil Conservation</i>	X	Low/No risk The actions in the project will not have negative effects on land and soil conservation. Components one and three of the project will support improvements to soil quality and restoration.

## **PART III: IMPLEMENTATION ARRANGEMENTS**

### **A. The Arrangements for Project Implementation. Project Governance**

The project will be governed by a Project Management Unit (PMU), guided and provided with oversight by a multi-sectoral Project Steering Committee (PSC), and supported with technical assistance and operational directions by a Project Implementation Agency Group (PIAG).

#### **Project Management Unit (PMU)**

The PMU will consist of a Project Manager and Technical Officer, who will be contracted for the duration of the project. The PMU will provide daily project management support, oversight, management of fund flow, and executing partners' delivery. The Project Manager will coordinate project implementation and oversee the overall progress across the five (5) components. Generally, the PMU will coordinate and facilitate convening activities that involve learning, best practice sharing as well as monitoring and evaluation among implementing agencies. The project manager will be responsible for coordinating the joint efforts that are conducted in collaboration with the sub-project leads and their respective organizations. The Technical Officer will monitor the progress made according to the indicators and will steer project implementation under the various components. The Technical Officer will monitor the gender indicators and standards. The PMU will lead the review, screening and appraisals for proposals submitted in the response to the Call for Proposals.

Generally, the Project Management Unit will be responsible to provide guidance for the operationalization of the project activities and ensuring compliance with the commitments set out in the project document, Environmental and Social Policy, with 15 principles of Adaptation Fund, as well as providing day-to-day support to all partner institutions. The project manager will develop, in collaboration with the partner agencies, a Monitoring and Evaluation Plan during the project inception phase. The project manager will also monitor project implementation, if needed, through periodic visits to the intervention sites. The PMU will ensure that the project is implemented on time and monitor the inter-institutional interventions. The PMU will support report development for use by the PSC.

#### **Project Steering Committee (PSC)**

The Project Steering Committee (PSC) will consist of members drawn from a cross-section of stakeholders from the priority areas of the components that will be established. The Implementing Entities will establish a PSC to provide oversight and technical guidance for the implementation of the project. The PSC will be chaired by the Chief Executive Officer of the Ministry of Sustainable Development, Climate Change & Disaster Risk Management (MSDCCDRM). Members of the PSC will



be nominated by their respective ministries and/or organizations and appointed by the MSDCCDRM. Members are appointed for the entire duration of the project. The proposed composition of the PSC is as follows:

- CEO or a designated representative in the Ministry of Sustainable Development, Climate Change & Disaster Risk Management
- CEO or a designated representative in the Ministry of Natural Resources, Petroleum and Mining
- CEO or a designated representative of the Ministry of Agriculture, Food Security and Enterprise
- CEO or a designated representative in the Ministry of Infrastructure Development and Housing.
- CEO or a designated representative in the Ministry of Finance, Economic Development and Investment
- CEO or a designated representative of National Emergency Management Organization
- Chief Climate Change officer or a designated representative of the National Climate Change Office
- CEO or a designated representative in the Ministry of Rural Transformation, Community Development, Local Government and Labour
- Executive Director or a designated representative of PACT as an ex-officio observer
- The Project Manager is the recording secretary and ex-officio observer.

The role of the PSC is among others (1) approving annual work plans of the components and reviewing key project periodical reports; (2) reviewing and approving the contractual agreements, including work plans, budgets, and payment schedules, with a particular emphasis on leveraging synergies and avoiding duplication; (3) reviewing any deviations and considering amendments to work plans and contractual agreement; and (4) final review and approval of funding proposal granted under the project.

### **Project Implementation Agency Group (PIAG)**

The PIAG will carry out the day-to-day management of the project including the coordination, supervision, monitoring, quality control, socio-environmental management and reporting. The PIAG will consist of the Project Manager, Technical Officer, staff from the NCCO Sustainable Development and key partner entities NEMO, MIDH, Forestry Department, Hydrology Unit, Agriculture Department, and fiduciary staff from PACT. PACT will be responsible for ensuring sound fiduciary management of the Project's resources and the overall delivery of the project.

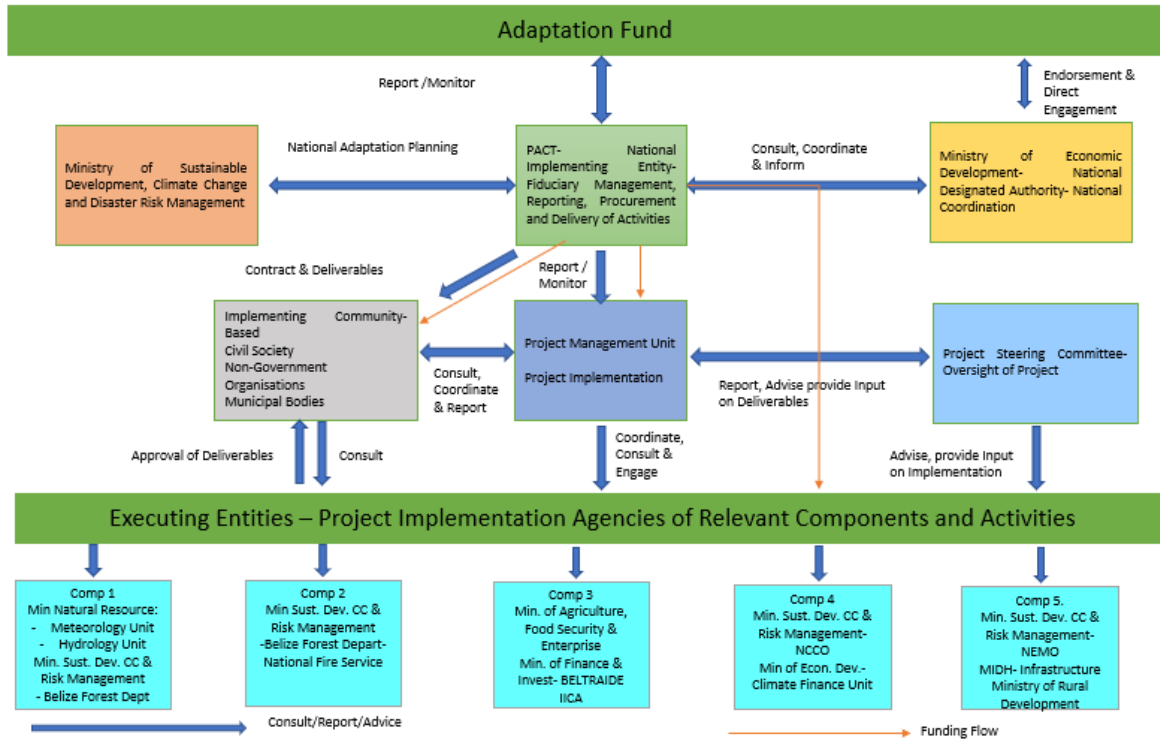


Figure 7: Project Organogram

**B. Describe the Measures for Financial and Project Risk Management.**

Table 21: Project Risk Management

Risk Type	Risk Category	Risk Level (Impact/Probability) 1: Low 4: High	Management/Mitigation Measure
Project Stakeholder Risk	National stakeholders do not support the project activities and do not participate in proposed interventions	Impact: 4 Probability: 1	The project development process has been managed through a consultative process with multiple stakeholders. After funding approval by AF and during the call for proposal, PACT will continue to implement project socialization and awareness raising among partners and potential executing entities.
Operational Risk	<b>Governance:</b> The national governance structures may not support the project.	Impact: 4 Probability: 1	The project components align closely with national policies, strategies and frameworks for climate action. It will be implemented using the EDA modality, allowing for on-

			granting for local level actions that enable direct support to communities and populations that are most vulnerable to climate change.
Institutional Risks	<b>Institutional:</b> Capacity constraints of local institutions may limit the effective implementation of interventions	Probability: 3 Impact:4	This project will require technical and institutional support from agencies and ministries mandated with regulatory responsibilities for all components. The timeliness of their responses and commitment to partnerships with local organizations will be key for successful implementation of the related project
Design Risks	<b>Design:</b> The project design has provided insufficient integration of national, subnational, and technical requirements	Probability: 1 Impact: 3	The consultative process for project proposal development has informed the design and expected outputs for this project. Stakeholders have contributed to defining the anticipated activities that will be most responsive to their climate adaptation needs.
Performance Risk	<b>Operational:</b> Unavailability of experts in country	Probability: 2 Impact: 3	The project components rely on the availability of climate, engineering, agriculture, hydrological, environmental, forest management, gender, micro-enterprise, and fire management expertise, that are available locally and which partner agencies can access on behalf of the community-based organizations and entities they are supporting.
Social Risks	<b>Social:</b> Lack of commitment/buy-in from local communities may result in delays.	Probability: 3 Impact:4	Community engagement and buy-in will remain an ongoing effort throughout project implementation as communities will need support to remain engaged.
Social Risks	<b>Social:</b> Communities may fall back into negligent practices during or after the AF project.	Probability: 2 Impact:4	The project actions and specific outputs are designed so that there is strong partnership between local level entities and regulatory or lead agencies to promote knowledge and capacity transfer.
Financial	<b>Financial</b> Control Risk	Probability: 1 Impact: 3	All applicant entities will be screened and assessed for administrative and fiduciary responsibilities. Past institutional and capacity

			assessment of implementing agencies indicated that partner agencies have systems and structures in place to meet the financial capabilities required by PACT.
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**C. Describe the Measures for Environmental and Social Risk Management, In Line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

*Table 22: Environmental and Social Risk Screening*

<b>Environmental and social principles</b>	<b>Environmental and Social impacts and risks / Component</b>	<b>Probability of Risks</b>	<b>Mitigation measures</b>	<b>Mitigation Action Plans</b>
Compliance with the Law	The project is unlikely to have any legal or regulatory risks	Low/No risk	All actions relating to land use, forest protection and infrastructure installation on public property will be properly vetted to ensure compliance with the law.	Assess implications and implement mitigation actions secure endorsement with land-owners.  In the event of conflict or grievance, apply the PACT or agency specific Grievance Mechanism.
Access and Equity	Potential inequality of shared benefits among stakeholders and beneficiaries	Low/No Risk	Ensure that monitoring and reporting reflect any disproportionate access and equity issues	Stakeholder feedback and engagement planning will be assessed during action preparation and design.
Marginalized and Vulnerable Groups	Potential equality of shared benefits among stakeholders and beneficiaries	Low/No Risk	Ensure that monitoring and reporting reflect any disproportionate access and equity issues	Ongoing and consistent implementation of FPIC protocols inclusive of formal and informal feedback sessions with indigenous populations.

Human Rights	Human rights violations may occur	Low/No Risk	The project supports and advances human rights.	The project supports the right to health, the right to work, safe working environments, non-discrimination, gender equality and women's empowerment. These are also underpinned by No Hunger (SDG1) Zero Hunger (SDG 2), Good Health and Well-being (SDG3) Gender Equality (SDG 5) Sustainable cities and Communities (SDG 11) Responsible Consumption and Production (SDG 12), Climate Action (SDG 13) and Life on Land (SDG 14).
Gender Equity and Women's Empowerment	Social and cultural practices could affect the inclusion, participation and representation of women.	Medium	The project specifies that gender equality and empowerment are key to whole community resilience and adaptation to climate change	Apart from supporting the achievement of Gender Equality (SDG 5) the project will monitor for gender inclusion and will expect that monitoring data will be disaggregated by sex.
Core Labor Rights	Sub-contractors may not always maintain vigilance with labour rights.	Low/No Risk	The project will uphold relevant labour laws including regulations and legislations on decent work and child labour.	The project will institute labour law regulations in all contracts and will monitor working conditions during field assessments.
Involuntary resettlement	While relocation is not expected, some households may be inconvenienced with earth movement actions, fire path creation.	Low/No Risk	The project will use engineers and technical specialists to minimize the need for resettlement.	The communities and households will be regularly consulted to inform of changes to land and living conditions should this occur.

Indigenous Peoples	No direct impact is expected to bear on indigenous peoples	Low/No Risk	The project will ensure that social assessments and stakeholder feedback inform improved benefits among indigenous populations	The project will monitor equality for benefits for all populations.
Protection of Natural Habitats	Some construction work such as drains and drainage system may have some potential impact on the natural habitats	Low/ No Risk	Assessments of impact will be conducted to ensure minimal impact on natural habitats.	The project will use technical experts and specialists to prevent and damage natural habitats.
Conservation of Biological Diversity	No risk to biological diversity	Low/No Risk	No change to biological diversity is anticipated	Monitoring reports will document any change.
Climate Change	No increase in greenhouse gas emissions or other drivers for climate change.	Low/No Risks	Not applicable	None
Pollution Prevention, Resource Efficiency, and Public Health	Construction materials can generate wastes that may not be properly disposed of.	Low/No Risks	Assessment of construction sites will be regularly conducted by contractors and field staff.	Monitoring reports will capture any pollution or public health concern.
Public Health	The lack of application of health and safety standards	Low/No Risk	Assessment of construction sites will be regularly conducted by contractors and field staff.	Monitoring reports will document any public health concerns generated by the actions.
Physical and Cultural Heritage	None of the project component activities are expected to	Low/Moderate	Not applicable	None

	impact on cultural heritage.			
Lands and Soil Conservation	The project will support actions that enhance soils and avoid degradation of productive lands.	Low/No Risk	The project may have unintended impacts on soils not under intervention.	Monitoring reports will document any changes in land and soil.

### Grievance Mechanism

The project will be guided by the PACT's Grievance Redress Mechanism (GRM). However, as this project will be implemented using an on granting approach, the executing agencies will be expected to apply their respective GRMs which they will also be assessed for during the proposal screening process. In the absence of an agency specific GRM, PACT's GRM will be made available to all project beneficiary communities and stakeholders. This mechanism allows them to have an accessible, transparent, fair, and effective means to communicate with the project management (and Project Steering Committee) if there are any concerns regarding the project design and implementation.

All GRMs will be implemented on the basis that they provide an accessible avenue for the submission of complaints by aggrieved stakeholders or interested parties to which they will receive feedback. Aggrieved persons can be individuals and whole communities. The GRMs enable efficient response and accountability to project stakeholders and beneficiaries and ensure that problems are solved amicably to reduce any further risks to the project that can have adverse impacts on the intended beneficiaries.

In accordance with its ESMF, PACT's GRM has been designed to respond to complaints relating to comments, suggestions or queries; complaints relating to non-performance of project obligations; complaints referring to violations of law and/or prohibited practices; and complaints against project staff or community members involved in project management. All employees, executing entities and consultants/contractors, and community members will be made aware of the grievance mechanism to lodge complaints, criticisms, concerns, or queries regarding the implementation of the project. Stakeholders may also use any engagement or training activity implemented through the project by PACT to raise grievances. The project staff, including from implementing agencies and sub-contractors, will also be trained to recognize grievances in communities and among community members as they are emerging and to deal with grievance reports both verbal and written and initiate submission to trigger a resolution process. All stakeholders, including beneficiaries, will be made aware of the grievance mechanism, their options for reporting, what constitutes a grievance, and their right to anonymity at the start of the project, and/or whenever the project first contacts them. This will be done by ensuring that the EE and implementing

agencies make access to information on the grievance mechanism available to beneficiaries, stakeholders and the public by publishing this on their websites among other communication means social media pages of the entities.

In some communities where women are afforded different audiences than males to have their grievances addressed, the grievance mechanism will be adopted accordingly. The need for any such measures will be identified early during proposal assessment and during the screening process.

**D. Describe the Monitoring and Evaluation Arrangements and Provide a Budgeted M&E Plan, In Compliance with the ESP and the Gender Policy of the Adaptation Fund.**

In describing the monitoring and evaluation arrangements, this project ascribes to the AF evaluation framework considerations. It is foremost aligned with the definition of evaluation as a systematic and objective assessment of an ongoing or completed project, programme including its design, implementation, and results.<sup>[1]</sup> This process, therefore, will enable a determination on the relevance and fulfilment of objectives, development efficiency, effectiveness, impact, and sustainability of the Building Climate Resilience for Transformative Adaptation Project.

A mid-term evaluation, field visits, field missions, audit and terminal evaluation constitute the M&E plan for this project. The associated costs for these activities are budgeted in the Project Execution Costs and the Project Cycle Management Fee (**Table 29 and Table 30**). The details for the M&E Plan are outlined below in **Table 23**.

*Table 23: Outline Monitoring and Evaluation Plan*

Type of M&E Activities	Responsible Parties	Time Frame for reporting	Reporting Format	Budget (US\$)	Source
Inception workshop	Project Manager	Within the first quarter in year 1	Inception workshop Report	-	Covered by PEC budget
Measurements of means of verification (baseline assessment and M&E plans for the components)	Project Manager; Project team; external consultant	First-quarter of year 1	M&E Plans / Result Frameworks	\$8,500	PEC
Project progress and performance reviews	Project Manager	Quarterly, Annually	The quarterly project progress		
Community consultations/ workshops/trainings	Project Manager; Project team	No later than two (2) weeks after each event	Project Event reports	-	



Project Implementing Agency Group Meetings	Project Manager & Project Implementation Group	Every 6 months	Meeting Reports	-	
Direct Project Monitoring and Quality Assurance including progress and financial reporting, project revisions, technical assistance, and risk management	Project Manager	Quarterly and annually	The quarter, annual project progress, and performance reports	-	Covered by PE budget
Field missions	Project Manager	Every three months	Field mission Reports	\$45,000	PCMF
The Mid-term Evaluation	Project Manager & external consultant	Final project year	Audit report	\$8,500	PEC
The Terminal Evaluation	Project Manager & external consultant	Six months before the end of the project period	Terminal evaluation Report	\$10,000	PEC
Audit	External Consultant	Final Project Year	Audit Report	\$35,000	PEC
Conduct M&E and verification (including environmental and social management plans and gender indicators)	Technical Officer	Year 1, 2, 3,4	M&E Verification Reports	\$90,000	Covered by PCMF budget
Hire monitoring and evaluation officer (Technical Officer)	Project Manager	Monthly	Monitoring and evaluation updates and reports	\$130,000	Covered by PCMF
			<b>Total Budget</b>	<b>\$327,000</b>	Combination between project execution cost and PACT

As this project will provide funding to proposals through on-granting, the monitoring and evaluation plan for each sub-project will be planned during the screening process and in compliance with the M&E and gender principles of the AF. PACT has in its ESMF a gender analysis and action plan template, which implementing agencies will be expected to use. The project provides for a project manager who will coordinate the development and monitor the implementation of the M&E plan.

### **Gender Action Plan for Monitoring and Evaluation**

*Table 24: Gender Action Plan*

The following gender action plan of the project aims to ensure equal participation of men and women and to integrate the gender-related needs of the local communities into the technical design and the way the project

is implemented. The Gender Action Plan was developed with contributions from stakeholder consultation and describes the proposed measures to be included in the project design and implementation to promote gender equality and mainstreaming in the component actions. In particular, it focuses on the gender concerns relating to equal access to opportunities, participation in decision-making, women's access to training and practical skills, and how the plans/strategies developed will ensure equal opportunities for women.

Project Components	Outcomes	Gender issue	Action	Indicator	Beneficiaries	Responsible Party
<i>Component 1 Safeguarding forest and water resources through strategic protection and restoration solutions</i>	-Improved water quality of rivers  -Enhanced ecosystems services linked to the restoration of riparian forests and the aquatic environment	-Both men and women depend on forest resources and their ecosystem services; -Women and men have different needs, uses, preferences and knowledge in relation to ecosystem services; -Women primarily depend on forest and watersheds for subsistence;  -Men primarily depend on forests for subsistence, income-generation, and/or commercial purposes;  -Under-representation or exclusion of women in watershed management.	Support partnership programs, including exchange programs, for both rural men and women to work together to reduce threats to water resources in their respective communities;  -Support rural organizations, women's groups, and schools to provide education and outreach programs in support of actions to reduce risks to watershed loss and protection of water quality. -Monitor gender participation in watershed restoration programs and projects, and document progress, revise the plan as needed.	-No. of women who participate in watershed management exchange programs; -No. of schools who participate in outreach programs; -No. of women's organizations that participate in education and outreach programs.  -No. of women with project roles in implementing agencies.	-Members of women's groups; -Members of village councils; -Teachers; - Community-based organizations -Schools, women's groups  Community based organizations - Implementing entity.	Ministry of Rural Development -DAVCO; -Forestry Department.  -PACT - Implementing agency.
<i>Component 2 Combating wildfires through adaptive management</i>	Enhanced protection from fires	Enhanced protection from fires -Gender arrangements impact and	Provide technical and logistical support for the creation inclusive Fire-fighting	No. of wildfire management	- Farmers; -Hunters; -Producers Organizations;	Forestry Department National Fire Service

		<p>shape wildfire prevention and response in rural communities;</p> <p>-Women are limited or excluded from participating in the design of policies to manage, plan, and train for wildfire at the local level;</p>	<p>Community Brigades;</p> <p>-Support community leaders in creating by-laws for the management of fires; in pilot communities;</p> <p>-Provide training for farmers, hunters, women and rural community leaders on their roles and responsibilities for wildfire prevention;</p> <p>-Develop and implement community fire-load reduction strategies, especially after hurricanes;</p> <p>-Conduct inclusive wildfire preparedness and response training</p> <p>-Develop and implement wildfire communication strategy for rural communities at risk;</p>	<p>zones identified;</p> <p>-No. of fire paths or firebreaks constructed;</p> <p>No. of women and girls who are members of pilot fire brigades;</p> <p>-No. of women and men who participate in wildfire preparedness and response training;</p> <p>-No. of women targeted in communication and fire prevention messages</p>	<p>-Women's groups;</p> <p>-Schools</p>	
<p><i>Component 3 Creating opportunities to support alternative livelihoods</i></p>	<p>Increased livelihoods</p>	<p>-Men play a greater role in natural resources exploitation than women;</p> <p>-More men than women are engaged in agriculture and tourism activities.</p>	<p>-Promote women inclusion in the management of forest plantations, harvesting, processing, timber and non-timber harvesting, and sale.</p>	<p>-Percentage of rural women participating in agroforestry</p> <p>-No. of rural farmers aware of ecological dynamics and technological innovations</p>	<p>-Rural women</p> <p>-Rural men</p> <p>-Rural youth</p> <p>-Indigenous women and men</p>	<p>-Rural Development</p> <p>-Agriculture Department</p> <p>-Department of Women and Children's Affairs</p> <p>-Forest Department</p>

				-No. of people receiving technical assistance and support.		
	Increased numbers of climate smart food production systems	-Women are held responsible for food security of their children, particularly dealing with the consumption needs (water, food, energy, and other household materials) and nutrition of the family;	-Support programs to encourage rural farmers to integrate the use climate smart techniques for agricultural production and nature-based businesses	-No. of male and female rural farmers aware of ecological dynamics and technological innovations;  -No. of men and women receiving technical assistance and support for nature-based businesses	-Rural farmers Small-scale or subsistence farmers  -Large-scale agriculture stakeholders  -Rural women Rural men Rural youth Indigenous women and men	-Ministry Rural Development -IICA  -Agriculture Department  -Department of Women and Children  -Forest Department  -Department of Environment  -Lands Department  -Health Practitioners  -National Climate Change Office  -BTB
<i>Component 4 Building national capacity to access adaptation finance</i>	Increased technical capacity to better access climate finance	-Gender disparities evident in access to finance, resources, tools, trainings,  -Land and services different for women and men;  -Women have less access to financial aid,	-Assist rural communities, organizations, and groups to build their capacity to access climate finance.  -Increase opportunities for experiential learning  -Enable better budget flexibility	-No. of vulnerable women and women's groups and organizations accessing climate finance  -No. of women's groups receiving technical support in financial management	-Rural women  -Rural men -Rural youth  -Indigenous women and men  -Afrodescent women and men  -Rural Community leaders (Village Councils' leaders, Alcaldes)	-BELTRAIDE -ITVET -Ministry of Agriculture -Ministry of Rural Development -Ministry of Economic Development -Credit Unions -DFC

		<p>resources and services;</p> <p>-Women more vulnerable to economic shocks and stressors;</p> <p>-Extension and vocational training, as well as technical assistance for women limited in rural communities;</p>		<p>-Number of financial mechanisms to support climate change adaptation for women producers</p>	<p>-Women's groups</p> <p>-Religious Groups</p> <p>-Youth Groups</p> <p>-Community Forestry groups</p> <p>-Private Landowners</p> <p>-Rural Small Farmers</p> <p>- Community-based groups</p> <p>-Tour guides</p>	
<p><i>Component 5 Community disaster risk management</i></p>	<p>Increased technical capacity to address flooding</p>	<p>-The burden for household disaster prevention and management can fall disproportionately to women and girls</p>	<p>-Provide training to women and youth groups in disaster and emergency management;</p> <p>-Support schools to implement disaster management in curriculum;</p> <p>-Partner with rural community leaders and agencies to identify flood-prone areas;</p> <p>-Support communities to install drains and drainage systems in areas that flood</p>	<p>-No. of women who received disaster management training;</p> <p>-No. of schools with curriculum on disaster management and response</p> <p>-No. of communities involved in drainage system projects</p> <p>-No of drainage systems projects implemented</p> <p>-No. of men and women employed in the construction of natural</p>	<p>-Women's groups</p> <p>-Students</p> <p>-Teachers</p> <p>-Rural women</p> <p>-Rural men</p> <p>-Rural youth</p> <p>-Indigenous women and men</p> <p>-Afro-descent women and men</p> <p>-Rural Community leaders (Village Councils' leaders, Alcaldes)</p> <p>-Women's groups</p> <p>-Religious groups</p> <p>-Youth groups</p> <p>-Religious groups</p> <p>-Youth groups</p>	<p>-NEMO</p> <p>-Ministry of Education</p> <p>-Belize Red Cross</p> <p>-DAVCO</p> <p>-NAVCO /DAVCO</p> <p>-Rural community leaders (Village Councils' leaders, Alcaldes)</p> <p>-Women's groups</p> <p>-Religious Groups</p> <p>-Youth Groups</p> <p>-Community Forestry groups</p> <p>-SFM stakeholders</p>

				and man-made drainage systems	<ul style="list-style-type: none"> <li>-Community forestry groups</li> <li>-Private landowners</li> <li>-Rural small farmers</li> <li>- Community-based groups</li> <li>-Tour guides</li> </ul>	<ul style="list-style-type: none"> <li>-Private landowners</li> <li>-Rural small farmers</li> </ul>
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The project will ensure to include female and youth involvement, including indigenous women and youth groups in climate change discussions, training, and capacity building initiatives. Women are represented in all NGO and community groups that have been met with to develop this project proposal and communications with these women and youths will continue if the project is implemented. While implementing activities women’s knowledge, needs and roles will be reflected, while incorporating indigenous expertise and traditional practices. Women comprise of a large portion of the workforce in the tourism and agricultural sector; thus, they need to be provided with the same access to resources and training opportunities. When reaching out to community groups and indigenous groups special effort will be made to ensure equal representation of males and females, while ensuring that those who are chosen have the interest in supporting the project and in the learning opportunities that will be provided. Groups such as NAVCO, BENIC, the National Women’s Commission and others will also be consulted throughout the entire process. The project will build on the capabilities, unique knowledge, and perspectives of women, to not only build their climate resilience but also make them active agents of the project.

**E. Include A Results Framework for the Project Proposal, Including Milestones, Targets, and Indicators, Including One or More Core Outcome Indicators of the Adaptation Fund Results Framework, and in Compliance with the Gender Policy of the Adaptation Fund.**

Table 25: Results Framework for the Project Proposal

Expected Result	Indicators	Baseline Data	Targets	Risks & assumptions	Data collection method	Frequency	Responsibility
<b>Component 1: Safeguarding forest and water resources through strategic protection and restoration solutions</b>							
<p><b>Outcomes</b> Water quality improved for watershed in country</p> <p>Increased understanding of climate change impacts visible in communities</p>	<p>Number of rivers with improved climate-adaptive management systems</p> <p>Percentage of riparian forests in rivers restored</p>	<p>Monitoring of water quality in the BRW is not conducted regularly and in a systematic manner to support local efforts at the community or watershed level</p>	<p>Forest Restoration Strategy and Implementation Plan completed</p> <p>Biodiversity Conservation and Ecosystem Management Report completed</p> <p>Riparian Belize River Watershed Water Quality Status Report completed and updated</p> <p>Implementation plan completed</p> <p>Mopan and Macal Rivers Water Quality Report completed</p> <p>Impact on Land Use Change on Micro and Macro Invertebrates Research Report completed</p> <p>Community-based Water Quality sub-projects approved for funding</p> <p>Water Quality Restoration Strategy Communication plan completed</p>	<p>Risk: Technical resources and inputs are consistently available within national authorities to conduct testing activities.</p> <p>Assumption: Communities accept the results of tests and assessments legitimate and accurate</p>	<p>Reports of meetings with stakeholders and national authorities</p>	<p>Baseline Report Quarterly</p> <p>Annually</p> <p>Mid-term</p> <p>End-term</p>	<p>PMU, Forestry Dept., Hydrology Unit</p>
<p><b>Output</b> 1.1 Restoration strategies developed</p>	<p>Number of males vs. females participating in restoration activities</p>	<p>The Belize River Watershed is a main source of water for just under 45% of the national population</p>		<p>Risk: The national authorities prioritize the preparation of the strategy and the execution of the implementation plan.</p> <p>Assumption: Community based, non-government and producer organizations are prepared and willing to provide support for the restoration activities.</p>	<p>Reports of meetings with stakeholders and national authorities</p>	<p>Baseline Report Quarterly</p> <p>Annually</p> <p>Mid-term</p> <p>End-term</p>	<p>PMU, Forestry Dept., Hydrology Unit</p>
<p><b>Output</b> 1.2 Pilot water quality restoration activities in Watershed</p>		<p>Small scale restoration has been implemented but these are specific to communities limiting resilience in the entire watershed. Additionally, skills</p>		<p>Risk: Community leaders are organized and committed to partnering with lead agencies to co-implement restoration activities.</p>	<p>Reports of meetings with stakeholders and national authorities</p> <p>Training plans</p> <p>Stakeholder discussions</p>		<p>PMU, Forestry Dept., Hydrology Unit</p> <p>NBIO</p>

		transfer has not been sufficiently systematized.		Assumption: Resources, training and assistance are provided to stakeholders in a timely manner, and in ways that they can understand and apply.			
<b>Activities under Output:</b> <ul style="list-style-type: none"> <li>- Institute nature-based solutions for biodiversity conservation and ecosystem management</li> <li>- Develop and implement riparian forest restoration program</li> <li>- Assess water quality in the Belize River Watershed and implement water quality restoration strategies</li> <li>- Assess water quality of selected tributaries inclusive of the Mopan and Macal Rivers</li> <li>- Assess the impact of land use change on micro and macro invertebrates' population within selected rivers</li> <li>- Develop and implement water quality restoration strategies</li> </ul> Sub-activities that can be considered in this output can include: <ul style="list-style-type: none"> <li>- Conduct of frequent chemical water quality test for E-coli etc. in wells and pumps for potable water in villages</li> <li>- Conservation and preservation of water sources and adjacent forests in communities including lagoons, waterfalls, creeks, springs and streams; and</li> <li>- Develop and implement a pesticide control strategy that prevents contamination of potable water sources in communities.</li> </ul>				<b>Milestones:</b> <ul style="list-style-type: none"> <li>• Activities in Output 1.1 commenced by month 1 and completed by month 50</li> <li>• Activities in Output 1.2 commenced by month 6 and completed by month 54</li> </ul>			
<b>Component 2: Combating wildfires through adaptive management</b>							
<b>Outcome 2.1</b> Enhanced protection from fires	Number of communities with increased capacity to address wildfires  Number of community fire brigades established	The NFS is challenged to meet the wildfire management and response needs including in areas designated as hotspots.	Wildfire Management Entities Registry developed  Fire Management Network institutional framework completed Fire brigades in pilot communities ToRs completed	Risk: The NFS does not mainstream the management of rural fires as standard practice. Assumption: The resource capacities of the NFS is steadily improved during the project period.	Reports of meetings with stakeholders and national authorities	Baseline Report Quarterly Annually Mid-term End-term	PMU Forestry Dept. NFS NAVCO Town Councils



<p><b>Output</b> 2.1 Fire management strategy developed and implemented</p>	<p>Number of trained males vs females in community fire brigades established</p> <p>Number of NGOs, CBOs, and Regulatory Agencies with increased capacity to address wildfires</p>	<p>PACT has provided support for fire management in PAs in Toledo and Orange Walk Districts. This needs to be expanded.</p>	<p>Community Fire Brigade Training Manual and Guide completed</p> <p>Contract signed for Installation of elevated water storage</p> <p>Water storage reports submitted</p> <p>Assessment report of Fire Response Region in the BNPAS completed</p> <p>National Wildfire Strategy and Action Plan completed</p> <p>Training manual for BNPA firefighter completed</p> <p>Wildfire Training Plan completed</p> <p>Contract signed for procurement of fire tool kits</p> <p>Fire toolkits, gears and equipment procured</p> <p>Community-based Wildfire Management sub-projects approved for funding</p>	<p>Risk: Experts and technical assistance are not readily available domestically. Assumption: The Forestry Department will lead on the provision of technical and coordination actions for the execution of this component.</p>	<p>Reports of meetings with stakeholders and national authorities</p> <p>Contractor payments</p> <p>Site visit and verification reports</p> <p>Consultant payments and reports</p> <p>Training reports</p> <p>Signed contracts</p> <p>Invoices paid</p> <p>Community proposals funded</p>	<p>Baseline Report</p> <p>Quarterly</p> <p>Annually</p> <p>Mid-term</p> <p>End-term</p>	<p>PMU Forestry Dept. NFS NAVCO Town Councils</p> <p>Community-based IA</p>
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<p><b>Activities under Output</b></p> <ul style="list-style-type: none"> <li>- Enhancement of wildfire management agencies network</li> <li>- Establish community fire brigades in pilot communities</li> <li>- Install elevated water storage tanks to act as fire refill stations and water storage during disaster response</li> <li>- Extend coverage of fire towers within the BNPAS</li> <li>- Create a national strategy to combat wildfires</li> <li>- Train and equip firefighters working within the BNPAS</li> <li>- Train wildfire first responders</li> <li>- Procure equipment for pilot communities</li> <li>- Develop and implement strategies for wildfire management</li> </ul> <p>Sub-activities that can be considered in this output can include:</p> <ul style="list-style-type: none"> <li>- Creating community programs for the issuance of fire permits at the village council level to improve the monitoring and fire use especially in communities where this is a traditional practice.</li> <li>- Fire education and network establishment to build a community of practice among local firefighters and fire brigades nationally.</li> <li>- Procuring equipment for pilot communities (specialized vehicle, firefighting equipment)</li> <li>- Installing elevated water storage tanks for wildfire management</li> </ul>	<p><b>Milestones:</b> Activities in Output 2.1 commenced by month 1 and completed by month 50</p>
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**Component 3. Creating opportunities to support alternative livelihoods**

<b>Outcome</b>	Number of functional climate smart food production systems established	Livelihood opportunities from nature-based production are still limited and the few programs that exist do not yet sufficiently reach women and youth to have the transformative effect needed for climate adaptation and resilience.	Transformative Food Production Systems Assessment Report completed Nature-based businesses identified and selected in communities Micro and Small Business Training manual completed	Risk: The demand for this component can outweigh available resource needs in communities. Assumption: Implementing agencies will complement project actions with other resource mobilization efforts and inputs.	Reports of meetings with stakeholders and national authorities	Baseline Report Quarterly Annually Mid-term End-term	PMU Min. of Agriculture IICA Forestry Dept. Coop. Dept. BTB Women's Dept.
<b>Output</b>	3.1 Climate smart food production system successfully piloted	A climate smart assessment of the agriculture sector has been completed with recommendations for implementation.	Micro and Small Coaching plan completed Micro and Small Coaching sessions implemented Food Production System Communication and awareness plan completed  Community Awareness and	Risk: Project struggles to secure consistent commitment and participation of farmers including women. Assumption: Implementing and technical lead agencies will work collaboratively to orient and prepare stakeholders and beneficiaries to participate in the project actions.	Reports of meetings with stakeholders and national authorities	Baseline Report Quarterly Annually Mid-term End-term	PMU Min. of Agriculture IICA Forestry Dept. Coop. Dept. Beltraide BTB Women's Dept.

3.2 Nature-based business operational	livelihood Number of persons training to operate businesses Number of males vs. females trained		Training sessions implemented Nature-based Products Market study report completed	Risk: Assumption:	Reports of meetings with stakeholders and national authorities	Baseline Report Quarterly Annually Mid-term End-term	PMU Min. of Agriculture IICA Forestry Dept. Coop. Dept. Beltraide BTB Women's Dept.
<b>Activities under Output</b> <ul style="list-style-type: none"> <li>- Design and implement pilot demonstration plots for transformative food production systems</li> <li>- Identify, develop and promote nature-based business opportunities</li> <li>- Provide training and business coaching skills for micro and small, sustainable business</li> <li>- Increase community awareness of food production systems and nature-based alternative livelihoods</li> <li>- Conduct market study for nature-based alternative products</li> </ul> Sub-activities that can be considered in this output can include: <ul style="list-style-type: none"> <li>- Creating a program to ensure extension and technical services are provided for alternative food production and livelihood options via marketing assistance, business ideas, new business, packaging and added value to existing products;</li> <li>- Strengthening small scale producer organizations through product pricing training and business to business negotiations;</li> <li>- Creating a network of intra-regional producers and suppliers (eg. Toledo and southern part of the Stann Creek Districts) and inter-regional networks (eg. Belize and Toledo District) to access the full extent of the domestic market for locally produced, nature-based products; and</li> <li>- Repackaging and rebranding of the tourism product in Belize to include experiential tours especially from farm to table dining experiences with women farmers and agricultural producers, and adventure tours in lesser visited protected areas.</li> </ul>					<b>Milestones:</b> Activities in Output 3.1 commenced by month 6 and completed by month 48 Activities in Output 3.2 commenced by month 1 and completed by month 55		
<b>Component 4. Building national capacity to access adaption finance</b>							
<b>Outcome</b> Increased technical capacity to better access climate finance	Number of persons trained to access climate finance Number of males vs. females trained	Small-scale training activities have been conducted for the public service and interested professionals from CSOs and NGOs. A structured and expanded program to reach community-	Contract signed for Technical Assistance Program Contract signed to develop and pilot awareness raising and knowledge sharing program	Risk: Potential beneficiaries (government agencies, NGOs, the private sector, municipal bodies, civil society, CSOs and academia) of this component do not prioritize strengthening of climate finance and resource mobilization	Reports of meetings with stakeholders and national authorities Reports of planning sessions Survey results based on priority training areas.	Baseline Report Quarterly Annually Mid-term End-term	NCCO MED Private Sector Entities Academia

	Number of NGOs, CBOs and Regulatory Agencies with increased awareness of climate change	based organizations is needed.	Contract signed for capacity building using earth observation to monitor adaptation finance impact	skills and capacity building Assumption: Improved coordination and convening activities for beneficiary entities strengthen interest and engagement in technical assistance and training in climate finance competencies.			
<b>Output</b> 4.1 Technical assistance programme piloted				Risk: Limited and insufficient experience exist in the country to devise targeted and specific multi-level climate finance TA. Assumption: Uptake and participation will be enabled through quality and timely outreach to potential participants.	Reports of meetings with stakeholders and national authorities Reports of planning sessions Survey results based on priority training areas.	Baseline Report Quarterly Annually Mid-term End-term	NCCO MED Private Sector Entities Academia
<b>Output</b> 4.2 Awareness raising and knowledge sharing program instituted		Knowledge and awareness of climate change remains limited among multiple populations including women, men, youth, children and the elderly in rural and urban areas.		Risk: None Assumption: Lead entity has technical capacity to convene stakeholders and beneficiaries regularly and is recognized as a resourceful, learning entity	Reports of meetings with stakeholders and national authorities Reports of planning sessions	Baseline Report Quarterly Annually Mid-term End-term	NCCO MED Private Sector Entities Academia
<b>Activities under Output</b>					<b>Milestones:</b>		
<ul style="list-style-type: none"> <li>- Establish a technical assistance program to strengthen CSO capacity for project development and implementation</li> <li>- Develop and pilot an awareness raising and knowledge sharing program</li> <li>- Build capacity for the utilization of earth observation data to monitor adaptation finance impacts at the local level</li> </ul> Sub-activities that can be considered in this output can include: <ul style="list-style-type: none"> <li>- Establishing intra-district and regional (inter-district) networks of adaptation implementing agencies to promote knowledge sharing, field visit exchanges, technical support, and emerging best practices.</li> </ul>					Activities in Output 4.1 commenced by month 1 and completed by month 42 Activities in Output 4.2 commenced by month 1 and completed by month 42		
<b>Component 5. Community disaster risk management</b>							

<b>Outcome</b> Increased technical capacity to address flooding	Number of communities with increased ability to recover post disaster	Communities lack adequate drainage infrastructure to address flood response in high risk areas.	Flooding Pattern Assessment report completed Contract signed for Drainage Design and Plan	Risk: The resources available under this component far outweigh demands, including in recognized flood prone areas. Assumption: Match funding and resources exist to address needs beyond the project scope.	Reports from national and site specific assessments.  Hurricane and storm related damage and needs assessments.  Post-disaster needs assessments (PDNA)	Baseline Report Quarterly Annually Mid-term End-term	MIDH NEMO Municipal Councils Village Councils NCCO DoE CBA
<b>Output</b> 5.1 Drainage system in flood-prone areas installed	Number of male vs. females in communities with increased ability to recover post disaster	Communities lack adequate drainage infrastructure to address flood response in high risk areas.	Contract signed for Drainage system  Contract signed for equipment for drainage system and maintenance	Risk: Project actions are completed in a timely manner to avert flooding disasters. Assumption: On site construction activities, including labour and material procurement are executed optimally and according to building codes and regulations.	Site assessment reports  Contract payments  Reports of meetings with stakeholders and national authorities	Baseline Report Quarterly Annually Mid-term End-term	MIDH NEMO Municipal Councils Village Councils NCCO DoE CBA
<b>Activities under output</b> <ul style="list-style-type: none"> <li>- Assess flooding patterns and devise proper drainage plans in local communities</li> <li>- Design drainage plan for flood-prone communities</li> <li>- Procure equipment for drainage system creation and maintenance</li> </ul> Sub-activities that can be considered in this output can include: <ul style="list-style-type: none"> <li>- Developing and designing residential planning at the village level; and</li> <li>- Instituting drain and flood committees, with skills training and equipment to maintain and upkeep existing drains as preventive flood measures.</li> </ul>					<b>Milestone:</b> Activities in Output 5.1 commenced by month 1 and completed by month 55 Activities in Output 5.2 commenced by month 1 and completed by month 55		

Output	Year 1				Year 2				Year 3				Year 4				Year 5	
Output 1.1 Restoration strategies developed	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Output 1.2 Pilot water quality restoration activities in Watershed		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Output 2.1 Fire management strategy developed and implemented	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Output 3.1 Climate smart food production system successfully piloted		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
Output 3.2 Nature-based business operational	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Output 4.1 Technical assistance programme piloted	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
Output 4.2 Awareness raising and knowledge sharing program instituted	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
Output 5.1 Drainage system in flood-prone areas installed	X	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x

## F. Demonstrate How the Project/Programme Aligns with the Results Framework of the Adaptation Fund

Table 26: Project alignment with the Results Framework of the Adaptation Fund

Project Outcomes	Project Indicators	Fund Outcome	Fund Outcome Indicator	Grant Amount (US\$)
<b>Component 1. Safeguarding forest and water resources through strategic protection and restoration solutions</b>				
1.1. Water quality improved for watershed in country	Number of rivers with improved climate-adaptive management systems  Percentage of riparian forests in rivers restored	<b>AF Outcome 3:</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.2. Modification of behaviour in targeted population	<b>425,000</b>
1.2. Increased understanding of climate change impacts visible in communities	Number of males vs. females participating in restoration activities	<b>AF Outcome 5:</b> Increased ecosystem resilience in response to climate change and variability-induced stress	3.1.1. No and type of risk reduction actions or strategies introduced at local level	<b>685,000</b>
<b>Component 2. Combating wildfires through adaptive management</b>				
2.1. Enhanced protection from fires	Number of communities with increased capacity to address wildfires  Number of community fire brigades established	<b>AF Outcome 3 :</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.2. Modification of behaviour in targeted population  3.1.1. No and type of risk reduction actions or strategies introduced at local level	<b>465,000</b>
2.2 Improved wildfire management for forests and grasslands across Belize	Number of trained males vs females in community fire brigades established  Number of NGOs, CBOs, and Regulatory Agencies with increased capacity to address wildfires	<b>AF Outcome 4:</b> Increased adaptive capacity within relevant development sector services and infrastructure assets	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset type)	<b>635,000</b>
<b>Component 3. Creating opportunities to support alternative livelihoods</b>				
3.1 Increased livelihood opportunities	Number of functional climate smart food production systems established	<b>AF Outcome 3 :</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1.1. No and type of risk reduction actions or strategies introduced at local level	<b>977,500</b>
3.2 Increased numbers of climate smart food production systems	number of functional climate smart systems managed by male vs female  Number of persons with an alternative form of financial income  Number of males vs. females with an alternative livelihood	<b>AF Outcome 5:</b> Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural assets maintained or improved under climate change and variability induced-stress  5.1. No. and type of	

	Number of persons training to operate businesses  Number of males vs. females trained		natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	
		<b>AF Outcome 6:</b> Diversified and strengthened livelihoods and sources of income for vulnerable people in the target areas	6.1. Percentage of households and communities having more secure access to livelihood assets 6.1.1 No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community livelihood strategies	<b>325,000</b>
<b>Component 4. Building national capacity to access adaption finance</b>				
4.1 Increased technical capacity to better access climate finance	Number of persons trained to access climate finance  Number of males vs. females trained	<b>AF Outcome 2:</b> Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental issues	2.1.1. No of staff trained to respond, and mitigate impacts of climate-related events	<b>155,000</b>
4.2 Increase national awareness of climate change impacts and adaptive measures	Number of NGOs, CBOs and Regulatory Agencies with increased awareness of climate change		2.1.2 Capacity of staff to respond to and mitigate impacts of climate-related events from targeted institutions increased	<b>125,000</b>
<b>Component 5. Community disaster risk management</b>				
5.1  Increased technical capacity to address flooding	Number of communities with increased ability to recover post disaster  Number of male vs. females in communities with increased ability to recover post disaster	<b>AF Outcome 4:</b> Increased adaptive capacity within relevant development sector services and infrastructure assets.	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset type)	<b>684,820</b>

**G. Include a Detailed Budget with Budget Notes, A Budget on the Implementing Entity Management Fee Use, and an Explanation and A Breakdown of the Execution Costs.**

Table 27: Budget Summary

Project Component	Year 1	Year 2	Year 3	Year 4	Year 5	Total Budget (US\$)
<i>Component 1: Safeguarding forest and water resources through strategic protection and restoration solutions</i>	\$268,000	\$211,000	\$255,000	\$201,000	\$175,000	\$1,110,000



<i>Component 2: Combating wildfires through adaptive management</i>	\$250,000	\$230,000	\$230,000	\$195,000	\$195,000	\$1,100,000
<i>Component 3. Creating opportunities to support alternative livelihoods</i>	\$285,000	\$255,000	\$255,000	\$285,000	\$222,500	\$1,302,500
<i>Component 4. Building national capacity to access adoption finance</i>	\$50,000	\$85,000	\$90,000	\$55,000		\$280,000
<i>Component 5. Community disaster risk management</i>	\$136,000	\$137,620	\$137,800	\$136,800	\$136,600	\$684,820
<i>5. Total Components</i>	\$1,009,454	\$932,256	\$981,436	\$886,436	\$735,918	\$4,477,320
<i>6. Project/Programme Execution cost</i>	\$20,454	\$13,636	\$13,636	\$13,636	\$6,818	\$68,180
<i>7. Total Project/Programme Cost</i>	\$985,936.	\$974,040	\$978,220	\$908,220	\$699,084	\$4,545,500
<i>8. Project/Programme Cycle Management Fee</i>	\$90,900	\$113,625	\$113,625	\$113,625	\$22,725	\$454,500
<i>Amount of Financing Requested</i>	<b>\$1,076,836</b>	<b>\$1,087,665</b>	<b>\$1,091,845</b>	<b>\$1,021,845</b>	<b>\$721,809</b>	<b>\$5,000,000</b>

Table 28: Budget Expected Concrete Outputs

Outcome	Output	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total Budget (US\$)
<b>Component 1: Safeguarding forest and water resources through strategic protection and restoration solutions</b>								
1.1 Water quality improved for watershed in country	1.1.1 Restoration strategies developed	Institute nature-based solutions for biodiversity conservation and ecosystem management	\$40,000	\$40,000	\$40,000	\$30,000	\$25,000	\$175,000
		Develop and implement riparian forest restoration program	\$60,000	\$60,000	\$60,000	\$40,000	\$30,000	\$250,000
	<b>Output 1.1.1 Total</b>			<b>\$100,000</b>	<b>\$100,000</b>	<b>\$100,000</b>	<b>\$70,000</b>	<b>\$55,000</b>
1.2 Increased understanding of climate change impacts visible in communities	1.1.2 Pilot water quality restoration activities in Watershed	Assess water quality in the Belize River Watershed and implement water quality restoration strategies	\$48,000	\$20,000	\$20,000	\$20,000	\$12,000	\$120,000
		Assess water quality of selected tributaries inclusive of the Mopan and Macal Rivers	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$175,000
		Assess the impact of land use change on micro and macro invertebrates' population within selected rivers	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$175,000
		Develop and implement water quality restoration strategies	\$42,000	\$43,250	\$43,250	\$43,250	\$43,250	\$215,000
	<b>Output 1.1.2 Total</b>			<b>\$160,000</b>	<b>\$133,250</b>	<b>\$133,250</b>	<b>\$133,250</b>	<b>\$125,250</b>
<b>Component 1 Total</b>			<b>\$260,000</b>	<b>233,250</b>	<b>\$233,250</b>	<b>\$203,250</b>	<b>\$180,250</b>	<b>\$1,110,000</b>
<b>Component 2: Combating wildfires through adaptive management</b>								
2.1. Enhanced protection from fires	2.1.1 Fire management strategy developed and implemented	Enhance wildfire management agencies network	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
		Establish community fire brigades in pilot communities	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000

		Install elevated water storage tanks to act as fire refill stations and water storage during natural disasters	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
		Extend coverage of fire towers within the BNPAS	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
		<b>Output 2.1 Total</b>	<b>\$85,000</b>	<b>\$95,000</b>	<b>\$95,000</b>	<b>\$95,000</b>	<b>\$95,000</b>	<b>\$465,000</b>
	2.1.2 Improved wildfire management for forests and grasslands across Belize	Create a national strategy to combat wildfires	\$60,000					\$60,000
		Train and equip firefighters working within the BNPAS	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
		Train wildfire first responders	\$15,000	\$30,000	\$30,000	\$15,000	\$15,000	\$105,000
		Procure equipment for pilot communities	\$50,000	\$50,000	\$50,000	40,000	\$40,000	\$230,000
		Develop and implement strategies for wildfire management	\$30,000	\$45,000	\$45,000	\$45,000	\$25,000	\$190,000
	<b>Output 2.2 Total</b>		<b>\$165,000</b>	<b>\$135,000</b>	<b>\$135,000</b>	<b>\$110,000</b>	<b>\$90,000</b>	<b>\$635,000</b>
<b>Component 2 Total</b>			<b>\$250,000</b>	<b>\$230,000</b>	<b>\$230,000</b>	<b>\$205,000</b>	<b>\$185,000</b>	<b>\$1,100,000</b>
<b>Component 3. Creating opportunities to support alternative livelihoods</b>								
3.1 Increased livelihoods	3.1.1 Climate smart food production system successfully piloted	Design and implement pilot demonstration plots for transformative food production systems	\$120,000	\$120,000	\$145,000	\$145,000	\$72,500	\$602,500
		Identify, develop and promote nature-based business opportunities	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$375,000
	<b>Output 3.1. Total</b>		<b>\$195,000</b>	<b>\$195,000</b>	<b>\$195,000</b>	<b>\$195,000</b>	<b>\$197,500</b>	<b>\$977,500</b>
3.2 Increased numbers of climate smart food production systems	3.1.2 Nature-based businesses operational	Provide training and business coaching skills for micro and small, sustainable business	40,000	\$45,000	\$45,000	\$45,000	\$35,000	\$210,000
		Increase community awareness of food production systems and nature-based alternative livelihoods	\$15,000	\$15,000	\$15,000	\$15,000		\$60,000

		Conduct market study for nature-based alternative products	\$25,000			\$30,000		\$55,000	
	<b>Output 3.2 Total</b>		<b>\$80,000</b>	<b>\$60,000</b>	<b>\$60,000</b>	<b>\$90,000</b>	<b>\$35,000</b>	<b>\$325,000</b>	
<b>Component 3 Total</b>			<b>\$275,000</b>	<b>\$255,000</b>	<b>\$255,000</b>	<b>\$285,000</b>	<b>\$232,500</b>	<b>\$1,302,500</b>	
<b>Component 4. Building national capacity to access adaption finance</b>									
<b>4.1 Increased technical capacity to better access climate finance</b>	4.1.1	Technical assistance programme piloted	Establish a technical assistance program to strengthen CSO capacity for project development and implementation	\$35,000	35,000	\$50,000	35,000	\$155,000	
	<b>Output 4.1.1 Total</b>			<b>35,000</b>	<b>35,000</b>	<b>\$50,000</b>	<b>35,000</b>	<b>\$155,000</b>	
	4.2.2	Awareness raising and knowledge sharing program instituted	Develop and pilot an awareness raising and knowledge sharing program	\$15,000	\$20,000	\$15,000	\$20,000	\$70,000	
			Build capacity for the utilization of earth observation data to monitor adaptation finance impacts at the local level		\$30,000	\$25,000		\$55,000	
	<b>Output 4.2.2 Total</b>			<b>\$15,000</b>	<b>\$50,000</b>	<b>\$40,000</b>	<b>\$20,000</b>	<b>\$125,000</b>	
<b>Component 4 Total</b>			<b>\$50,000</b>	<b>\$85,000</b>	<b>\$90,000</b>	<b>\$55,000</b>		<b>\$280,000</b>	
<b>Component 5. Community disaster risk management</b>									
<b>5.1 Increase technical capacity to address flooding</b>	5.1.1	Drainage system in flood-prone areas installed	Assess flooding patterns and devise proper drainage plans in local communities	\$15,000	\$15,820	\$15,000	\$15,000	\$15,000	\$75,820
			Design drainage plan for flood-prone communities	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
			Procure equipment for drainage system creation and maintenance	\$101,800	\$101,800	\$101,800	\$101,800	\$101,800	\$509,000
	<b>Output 5.1 Total</b>			<b>\$136,800</b>	<b>137,620</b>	<b>\$136,800</b>	<b>\$136,800</b>	<b>\$136,800</b>	<b>\$684,820</b>
<b>Component 5 Total</b>			<b>\$136,800</b>	<b>137,620</b>	<b>\$136,800</b>	<b>\$136,800</b>	<b>\$136,800</b>	<b>\$684,820</b>	
<b>6. Total Components</b>			<b>\$971,800</b>	<b>\$940,870</b>	<b>\$945,050</b>	<b>\$885,050</b>	<b>\$734,550</b>	<b>\$4,477,320</b>	
<b>7. Project/Programme Execution cost</b>			<b>\$20,454</b>	<b>\$13,636</b>	<b>\$13,636</b>	<b>\$13,636</b>	<b>\$6,818</b>	<b>\$68,180</b>	

<b>8. Total Project/Programme Cost</b>		\$992,254	\$954,506	\$954,413	\$898,686	\$741,368	<b>\$4,545,500</b>
<b>9. Project/Programme Cycle Management Fee</b>		\$90,900	\$113,625	\$113,625	\$113,625	\$22,725	<b>\$454,500</b>
<b>Amount of Financing Requested</b>		<b>\$1,076,836</b>	<b>\$1,087,665</b>	<b>\$1,091,845</b>	<b>\$1,021,845</b>	<b>\$721,809</b>	<b>\$5,000,000</b>

Table 29: Project Execution Cost

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total (US\$)
<b>Office supplies (Stationaries)</b>	\$1,236.00	\$1,236.00	\$1,236.00	\$1,236.00	\$1,236.00	\$6,180
<b>Audit</b>	\$7,000	\$8,750.00	\$8,750.00	\$8,750.00	\$1,750.00	\$35,000
<b>Baseline</b>	\$1,700.00	\$2,125.00	\$2,125.00	\$2,125.00	\$425.00	\$8,500.00
<b>Mid-Term Evaluation</b>	\$1,700.00	\$2,125.00	\$2,125.00	\$2,125.00	\$425.00	\$8,500.00
<b>End-Term Evaluation</b>	\$2,000	\$2,500.00	\$2,500.00	\$2,500.00	\$500.00	\$10,000.00
<b>Total for budget line 6</b>	\$20,454	\$13,636	\$13,636	\$13,636	\$6,818	\$68,180.00

Table 30: Project Cycle Management Fee Budget

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total (US\$)
<b>Equipment (IT, Office)</b>	\$10,000.00	\$15,000.00	\$5,000.00	\$5,000.00	\$4,500.00	\$39,500.00
<b>Communication and Branding of Project</b>	\$9,900.00	\$12,625.00	\$12,625.00	\$10,000.00	\$4,850.00	\$50,000.00
<b>Project Support Costs, rent, utilities, administration etc.</b>	\$18,000.00	\$22,000.00	\$35,000.00	\$20,000.00	\$5,000.00	\$100,000.00
<b>Travel</b>	\$9,000.00	\$14,000.00	\$12,000.00	\$9,000.00	\$1,000.00	\$45,000.00
<b>Project Manager</b>	\$26,000.00	\$32,000.00	\$26,000.00	\$39,625.00	\$6,375.00	\$130,000.00
<b>Office staff and technical support</b>	\$18,000.00	\$18,000.00	\$23,000.00	\$30,000.00	\$1,000.00	\$90,000.00
<b>Total for budget line 8</b>	\$90,900.00	\$113,625.00	\$113,625.00	\$113,625.00	\$22,725.00	\$454,500.00

**H. Include A Disbursement Schedule with Time-Bound Milestones**

Table 31: Disbursement Schedule with Time-bound Milestones

	Year 1	Year 2	Year 3	Year 4	Year 5
	1st Disbursement -upon agreement signature	2nd disbursement - One year after project start	3rd disbursement - Two years after project start	4th disbursement - Three years after project start	5th disbursement - Four years after project start
<b>Reporting</b>	Upon financial report indicating disbursement of at least 30% of funds	Upon the First Annual Report Upon financial report indicating disbursement of at least 80% of funds	Upon the First Annual Report Upon financial report indicating disbursement of at least 80% of funds	Upon the First Annual Report Upon financial report indicating disbursement of at least 80% of funds	Upon the First Annual Report Upon financial report indicating disbursement of at least 80% of funds
<b>Outputs</b>	<b>Milestone (By the end of the year)</b>				

	Year 1	Year 2	Year 3	Year 4	Year 5
1.1. Restoration strategies developed	<p>Terms of reference for Biodiversity Conservation and Ecosystem Management Report completed</p> <p>Contract signed for Biodiversity Conservation and Ecosystem Management Report</p> <p>Biodiversity Conservation and Ecosystem Management Report completed</p> <p>Terms of reference for Riparian Forest Restoration Strategy and Implementation Plan completed</p> <p>Contract signed for Riparian Forest Restoration Strategy and Implementation Plan</p> <p>Riparian Forest Restoration Strategy and Implementation Plan completed</p>	<p>Nature-based solutions for biodiversity conservation and ecosystem management implemented with agreed targets for women's inclusion and participation</p> <p>Implementation of riparian restoration plan with communities with agreed targets for women's participation</p> <p>Progress reports</p>	<p>Nature-based solutions for biodiversity conservation and ecosystem management implemented with agreed targets for women's inclusion and participation</p> <p>Implementation of riparian restoration plan with communities with agreed targets for women's participation</p> <p>Progress reports</p>	<p>Nature-based solutions for biodiversity conservation and ecosystem management implemented with agreed targets for women's inclusion and participation</p> <p>Implementation of riparian restoration plan with communities with agreed targets for women's participation</p> <p>Progress reports</p>	<p>Evaluation</p> <p>Final Reports</p>
1.2. Pilot water quality restoration activities in Watershed	Belize River Watershed Water Quality Status Report planned and coordinated	First annual Belize River Watershed Water Quality Status Report completed	Second annual Belize River Watershed Water Quality Status Report completed	Third annual Belize River Watershed Water Quality Status Report completed	Evaluation Final reports

	Year 1	Year 2	Year 3	Year 4	Year 5
2.1. Fire management strategy developed and implemented	<p>Terms of reference for wildfire management registry developed</p> <p>Contract signed for Fire wildfire Management registry</p> <p>Fire Management Institutional Network framework developed</p> <p>Fire Brigade Pilot communities election criteria developed</p> <p>Fire Brigade Pilot Communities Identified</p> <p>Criteria for selection of sites for water storage tanks completed</p> <p>Sites selected for construction of water storage tanks</p>	<p>Wildfire Management Registry completed</p> <p>Fire Management Institutional Network framework formalized and supported</p> <p>Community Fire brigades established, equipped and trained</p> <p>Contracts for construction of water storage tanks signed</p> <p>Construction of water storage completed</p>	<p>Wildfire Management Registry operational</p> <p>Fire Management Institutional Network framework network functional and supported</p> <p>Community Fire brigades established, equipped and trained</p> <p>Contracts for construction of water storage tanks signed</p> <p>Construction of water storage completed</p>	<p>Wildfire Management Registry operational</p> <p>Fire Management Institutional Network framework functional and supported</p> <p>Community Fire brigades functioning, equipped and trained</p> <p>Contracts for construction of water storage tanks signed</p> <p>Construction of water storage completed</p>	<p>Evaluation</p> <p>Completion Reports</p>
2.2. Improved wildfire management for forests and grasslands across Belize	<p>Terms of reference for fire response assessment in the BNPAS completed</p> <p>Contract signed for conduct of fire response assessment in the BNPAS</p>	<p>Terms of reference for training manual for firefighters in BNPAS developed</p> <p>Contract signed for training manual for firefighters in BNPAS</p> <p>BNPAS Firefighters Training Manual completed</p>	<p>Training of BNPAS firefighters</p> <p>Procure fire toolkits, gears and equipment</p> <p>Community-based wildfire management subprojects implemented</p>	<p>Training of BNPAS firefighters</p> <p>Procure fire toolkits, gears and equipment</p> <p>Contracts for fire towers signed</p> <p>Construction of fire towers</p> <p>Community-based wildfire</p>	<p>Training evaluation and completion reports</p>



	Year 1	Year 2	Year 3	Year 4	Year 5
		<p>Terms of reference for implementation of BNPA firefighters training completed</p> <p>BNPA firefighters training contract signed</p> <p>Training of BNPAS firefighters</p> <p>Procure fire toolkits, gears and equipment</p> <p>Criteria for selection of sites for fire towers completed</p> <p>Sites selected for construction of fire towers</p> <p>Community-based wildfire management subprojects approved</p>	<p>Progress and field visit reports</p> <p>Training evaluation</p> <p>Contracts for fire towers signed</p> <p>Construction of fire towers</p>	<p>management subprojects implemented</p> <p>Training evaluation</p> <p>Progress and field visit reports</p>	
3.1 Climate smart food production system successfully piloted	<p>Food systems assessments conducted and reports completed and submitted to PACT</p> <p>Selection of pilot communities and sites completed</p> <p>Design of Demonstration Pilot Sites completed</p> <p>Engagement of stakeholders with clear participation targets for women completed</p>	<p>Produce demonstration plots</p> <p>Procure inputs, materials and technical assistance</p> <p>Provide technical assistance and field support to pilot communities</p> <p>Develop progress reports</p> <p>Convene information sharing and stakeholders exchange and networking spaces</p>	<p>Provide technical assistance and field support to pilot communities</p> <p>Develop progress reports</p> <p>Convene information sharing and stakeholders exchange and networking spaces</p>	<p>Provide technical assistance and field support to pilot communities</p> <p>Develop progress reports</p> <p>Convene information sharing and stakeholders exchange and networking spaces</p>	<p>Evaluation</p> <p>Produce completion reports</p> <p>Convene information sharing and stakeholders exchange and networking spaces</p>
3.2 Nature-based businesses operational	<p>Micro and small business training assessments for nature-based entrepreneurship conducted and reports completed and</p>	<p>Nature-based businesses training and coaching contracts signed</p>	<p>Nature-based businesses training and coaching conducted including specific targets for women participants</p>	<p>Nature-based businesses training and coaching conducted including specific targets for women participants</p>	<p>Evaluation</p>

	Year 1	Year 2	Year 3	Year 4	Year 5
	<p>submitted to PACT</p> <p>Terms of references for nature-based businesses training and coaching completed</p> <p>Engagement of stakeholders with clear participation targets for women completed</p> <p>Terms of references for Food Production Systems Communication and Awareness Plan completed</p>	<p>Nature-based businesses training and coaching conducted including specific targets for women participants</p> <p>On site visits and coaching for nature-based businesses with specific targets for women entrepreneurs completed</p> <p>Food Production Systems Communication and Awareness Plan implemented</p>	<p>On site visits and coaching for nature-based businesses with specific targets for women entrepreneurs completed</p> <p>Food Production Systems Communication and Awareness Plan implemented</p>	<p>On site visits and coaching for nature-based businesses with specific targets for women entrepreneurs completed</p> <p>Food Production Systems Communication and Awareness Plan implemented</p> <p>Completion Reports</p>	
4.1. Technical assistance programme piloted	<p>Terms of reference for Climate Finance Technical Assistance Program completed</p> <p>Call for proposals to completed</p> <p>Contracts signed for technical assistance program</p>	<p>Recruitment and enrolment of training cohorts with agreed targets for women's participation</p> <p>Training plans developed</p> <p>Training conducted with established participation by women</p> <p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>	<p>Recruitment and enrolment of training cohorts with agreed targets for women's participation</p> <p>Training plans developed</p> <p>Training conducted with established participation by women</p> <p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>	<p>Recruitment and enrolment of training cohorts with agreed targets for women's participation</p> <p>Training plans developed</p> <p>Training conducted with established participation by women</p> <p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>	<p>Evaluation</p> <p>Produce completion reports</p>
4.2 Awareness raising and knowledge sharing program instituted	<p>Terms of references for development and piloting of awareness raising and knowledge sharing program</p>	<p>Recruitment and enrolment of training cohorts</p> <p>Training plans developed</p> <p>Training conducted</p>	<p>Recruitment and enrolment of training cohorts</p> <p>Training plans developed</p>	<p>Recruitment and enrolment of training cohorts</p> <p>Training plans developed</p> <p>Training conducted</p>	<p>Evaluation</p> <p>Produce completion reports</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	
	<p>Call for proposals to completed</p> <p>Contracts signed for pilot program</p> <p>Terms of reference for capacity building to use earth observation systems</p> <p>Contract signed for earth systems observation capacity building program</p>	<p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>	<p>Training conducted</p> <p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>	<p>Monitoring Evaluation and Learning reports completed</p> <p>Training reports prepared and submitted to PACT</p>		
5. Drainage system in flood-prone areas installed	ToRs for consultancy on Flooding Pattern Assessment completed	<p>Signed contract with firm for the conduct of flooding pattern assessment</p> <p>Results of flooding pattern assessment disseminated among stakeholders including women</p> <p>Engagements with stakeholders including women conducted in assessed zones</p> <p>Terms of reference for drainage systems completed</p> <p>Drainage systems design contracted</p>	<p>Drainage systems bill of quantities completed</p> <p>Tenders for construction advertised</p> <p>Signed contracts with firms or entity for constructions works</p> <p>Construction of drainage systems</p>	<p>Signed contracts with firms or entity for construction works</p> <p>Construction of drainage systems</p>	<p>Evaluation</p> <p>Assess status of construction retention fee payment</p>	
<b>Schedule date</b>	<b>June 2023</b>	<b>September 2024</b>	<b>September 2025</b>	<b>September 2026</b>	<b>January 2027</b>	<b>Totals</b>
Project Funds Signed contract with firm or entity	\$971,800	\$940,870	\$945,050	\$885,050	\$734,550	<b>\$4,477,320</b>
Project Execution ToRs for consultancy  Signed contract with firm or entity	\$20,454	\$13,636	\$13,636	\$13,636	\$6,818	<b>\$68,180.00</b>
Programme cycle Management	\$90,900	\$113,625	\$113,625	\$113,625	\$22,725	<b>\$454,500</b>

	Year 1	Year 2	Year 3	Year 4	Year 5	
Total (US\$)	\$1,100,354	\$1,045,881	\$1,095,061	\$1,000,061	\$758,643	\$5,000,000

**I. Justification for Funding Requested, Focusing on the Full Cost of Adaptation Reasoning.**

Belize is a small island developing state (SIDS) country that is at the sharp-end of climate change and climate variation impacts. As a lower middle income country, poverty and inequality are high in Belize and these are issues that affect some populations more than others, including rural populations, indigenous peoples, women and youth. Although Belize has put in place some strong frameworks to mitigate against and adapt to the impacts of climate change, there is still a funding gap in the public sector that would enable the government to meet the adaptation needs of the country in general, and those vulnerable populations specifically.

Funding from the AF through the EDA modality, will improve the engagement of organizations at the sub-national level, including small, local organizations to identify, design and establish technical partnerships to meet their adaptation needs. With the oversight mechanisms provided by the PACT through its existing ESMF, these sub-projects can adequately and effectively address climate adaptation needs at the most local level while maintaining the necessary safeguards and oversight. The application of PACT’s proposal review, screening and project approval process will lend for a high level of stakeholder engagement in ensuring that the allocated funds meet the outcomes and goals for which this project has been developed. As a lead climate finance entity, PACT has also demonstrated sound technical, operational and fiduciary capacity to implement projects of this nature and size.

Through this EDA, Belize will be able to implement a project that cohesively addresses the observed and experienced impacts of climate change at the household, community and local levels. Critical to this project is the attention to strengthen the capacities of CSOs and community-based organizations to develop inclusive and responsive climate adaptation actions that are part of wider adaptation strategies. The process of engaging with implementation at this level will facilitate climate adaptation knowledge generation and sharing in an inclusive manner.

**J. Sustainability of the Project**

Expectations for sustainability of this project are built on several aspects of its design and expected implementation modalities. The project is designed to include components that are closely related to each other. These components have also been identified and validated in consultation with stakeholders and this enables greater ownership of the actions that will be implemented by CSOs, NGOs, public and private entities. The project is also complementary to other projects including the pipeline AF project for coastal communities. This mostly terrestrial project will help to bolster national resilience and climate adaptation.

This project provides for technical and capacity building training to improve competencies in climate financing for adaptation projects. This will enable proactive development of other actions by communities and organizations beyond the timeline of the project. At the same time, having more trained and experienced

capacities for climate adaptation programming increases the accessibility of skilled human resources, which is often lacking at the community level.

This project will also make inputs, materials, and technical assistance available for sub-project or grant awardees which strengthens their capacity to continue the project actions beyond the life of the project. It will reach beneficiaries who are already engaged in small scale production and help them to scale in sustainable ways, backed by data and proven production technologies. Critically, the project is explicit about gender inclusion and it specifies and justifies the need for women to participate equitably and benefit equally, since sustainable adaptation cannot be achieved without them.

Finally, institutional mechanisms and frameworks will be developed and strengthened as a result of this project. These efforts will align with the national policies and development frameworks which this project has been shown to support.

#### **K. Overview of the Environmental and Social Impacts and Risks Identified**


The proposed actions under each of the components are considered to have low or no risks. Nonetheless, the proposals submitted by the implementing agencies will be reviewed, screened and assessed using PACTs ESMF. Through these processes, any negative impacts will be identified and measures to prevent and reduce their impacts will also be instituted. Generally, the actions identified for each component are expected to fall within categories B and C at screening and the checklist of environmental and social principles further establishes the assessed risks involved. Category B projects are those that have medium risk and may require a full or partial Environmental and Social Impact Assessment (ESIA) and generally include projects such as small scale agriculture, rural development, small scale infrastructure or small scale municipal infrastructure such as water supply (project components one to three and five). Category C projects such as feasibility studies, household surveys, training, small scale infrastructure, and small scale reforestation may require a partial ESIA, Limited Level Environmental Study (LLES), or limited ESIA (LSIA).

Of note, the gender nature of work, caregiving and societal expectations and norms can serve as a barrier to women's inclusion in some of the actions. To this end, the project is clear on the need for targets to be set for the level of participation by women. The site visits, progress reports and mid-term project evaluation can additionally serve to provide corrective feedback and measures to reduce and eliminate these risks.

Technical specifications such as building codes and construction standards will be assessed throughout project implementation. Partnerships by implementing agencies with mandated ministries and public entities will assure that these are met. Provision of technical assistance by experts and licensed professionals will serve as additional assurance for standards compliance. As well, the communities and stakeholders will be trained and engaged to serve as local monitors and they will have full access to the grievance mechanism and procedures if needed.


## PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

**A. Record of endorsement on behalf of the government<sup>8</sup>** Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project / programme. Add more lines as necessary. The endorsement letters should be attached as an annex to the project/programme proposal. Please attach the endorsement letters with this template; add as many participating governments if a regional project/programme:

 Dr. Osmond Martínez Chief Executive Officer Ministry of Economic Development	Date: 19/01/23
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**B. Implementing Entity certification:** Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (Plan Belize: Medium-Term Development Strategy, National Climate Change Policy, Strategy and Action Plan and Belize's Nationally Determined Contributions to the UNFCCC) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
<div style="display: flex; align-items: center;">  <div style="text-align: center;"> <b>Executive Director</b>  <b>PACT</b>  <small>Protected Areas Conservation Trust</small> </div> </div> <p>Mrs. Nayari Diaz-Perez                  Executive Director of the Protected Areas Conservation Trust                  Implementing Entity Coordinator</p>	
Date: 11/01/2023	Tel. and email: (501) 822-3637 ed@pactbelize.org
Project Contact Person: Mr. Eli Romero	
Tel. And Email: (501) 822-3637 – <a href="mailto:projdevofficer@pactbelize.org">projdevofficer@pactbelize.org</a>	

<sup>86.</sup> Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

ADAPTATION FUND

Letter of Endorsement by Government



GOVERNMENT OF BELIZE

Ministry of Finance, Economic Development and Investment

**ECONOMIC DEVELOPMENT**  
P.O. Box 42  
Ground Floor, Sir Edney Cain Building  
Belmopan City  
Belize, Central America

Tel: (501) 880-2526  
(501) 880-2527  
Email: econdev@med.gov.bz

Our Ref: IA/AF/1-23 (2)

January 19, 2023

To: The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: Secretariat@Adaptation-Fund.org  
Fax: 202 522 3240/5

Subject: Endorsement for "Building Community Resilience via Transformative Adaptation"

In my capacity as designated authority for the Adaptation Fund in Belize, I confirm that the above national project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented and executed by the Protected Areas Conservation Trust (PACT).

Sincerely,



  
Osmond Martinez, Ph.D.  
Chief Executive Officer  
Ministry of Economic Development

## ANNEX I GENDER/SOCIAL ASSESSMENT

### PART I: INTRODUCTION

#### Gender and Climate Change

Climate change is a “threat multiplier” because it can escalate social, political, and economic tensions that can exacerbate the vulnerabilities that women and girls already face because of their sex. Low earning capacity, high presence in the informal sector, lack of land tenure and accepted socio-cultural practices, and expectations that privileged men challenge women to adapt to climate change. The impacts of climate change will extend across the economic, social, cultural and governance mechanisms because men and women are affected differently.

As climate change affects the productive sector, especially the agricultural productive sector (commercial) and food system (subsistence), it disrupts the primary source of subsistence and income for most rural women. During drought and erratic rainfall, agricultural women workers work harder to secure their income and resources for their families. Girls often leave school to help their mothers manage these increased burdens (UNWomen, 2022). Climate change and variability will affect male and female small-scale farmers as, increasingly, the onset of prolonged periods of droughts, more intense hurricanes and flooding and rising temperatures will affect production. Furthermore, women experience gender-based violence because the impact of climate change forces them to undertake non-traditional roles, such as working outside the home. This shift in gender roles negatively affects the power dynamics in households. Hence, climate change can generate additional physical, emotional, security, and economic burdens for women and girls.

For women, climate change threatens their livelihoods and well-being and creates a vicious cycle of vulnerability to future disasters (UNWomen, 2022). Men have greater access to financing to rebuild their properties after climatic events. However, women have fewer resources and assets to recover from damage caused by weather and climatic events. The impact of climate change on the tourism and service industries (changing weather conditions, frequent storms, drought and wildfires can cease tourism operations locally and nationally) will affect women since many are employed in these industries.

In weather events like hurricanes, additional responsibilities lie upon women and girls because they are expected to provide additional labour to manage food, water supply, caring and shelter needs for the family. In the aftermath of a climatic event, women commonly tend to the household recovery efforts while men



return to work outside the home. Climate change is already influencing the distribution of labour in the household and will exacerbate constraints on women’s economic activities and opportunities. To this end, climate change threatens the ways of life, livelihoods, health, safety and security for women and girls (UNWomen, 2022).

According to the Intergovernmental Panel on Climate Change (IPCC), adaptation is an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.<sup>9</sup> There is still the need to strengthen the overall understanding of the gender-differentiated impacts of climate change and the factors that enable men and women to build resilience in Belize. This assessment makes a case for more gender-sensitive and responsive approaches to improve the adaptive capacities of men and women to climate change.

### Country gender profile

The estimated mid-year population in Belize in 2022 was 441, 471, of which 220,739 were males and 220, 732 were females, situating Belize as having an almost even split population by sex<sup>10</sup>. Notably, the population of Belize has increased steadily over the years, with the total estimated mid-year population in 2018 being 398,050. Whilst more people are still living in rural areas, population growth has been proportionally in rural and urban areas as noted in **Table 1** below.

**Table 1:** Estimated Mid-Year Urban-Rural Population Disaggregated by Sex 2018-2022<sup>11</sup>

Urban Population (mid-year)	2018	2019	2020	2021	2022
Male	86,963	89,155	91,405	93,713	96 082
Female	91,232	93,508	95,844	98,241	100,702
Rural Population Mid-year	2018	2019	2020	2021	2022
Male	112,065	115,092	118,198	121,386	124,657
Female	107,790	110,732	113,752	116,851	120,030

<sup>9</sup> Refer to the United Nations Framework Convention on Climate Change, “Fact sheet on climate change - Climate Change and Adaptation”, 2006.

<sup>10</sup> Statistical Institute of Belize, Postcensal Estimates 2010-2022 by Administrative Area and Sex. Sourced online at: <https://sib.org.bz/statistics/population/>

<sup>11</sup> Ibid.

There are gender implications for women and men based on whether they are located in rural or urban areas. For example, in terms of access and proximity to natural resources, men are more likely to be location privileged as they tend to be closer to the terrestrial, natural resource base of rural areas. Women who have moved to urban areas, in order to seek opportunities outside of rural areas, face new challenges which see them having to find non-agriculture-related work. Those who migrate to the towns, peri-urban areas and cities will have to learn to navigate formal social protection mechanisms and find work outside of the home.

As of 2021, life expectancy in Belize was 74.9 years.<sup>12</sup> The life expectancy rate for males and females is 71.57 per cent and 77.66 per cent, respectively (SIB, 2021). Women demonstrate positive health-seeking behaviours as compared to men, although this is limited and governed primarily by their reproductive health needs, and directly related to pregnancy status. In Belize, on average, women attend antenatal care at least four (4) times during their pregnancy. At the same time, women’s need for family planning is still lagging at 14 per cent and they have an unintended pregnancy rate of 71.<sup>13</sup> According to (PAHO/WHO) the overall life expectancy rate in Belize in 2021 was lower than the average for the Americas Region, although higher by 8.9 years as compared to 2020.<sup>14</sup>

**Table 2:** Life expectancy, Infant Mortality Rate, Fatality Rate and Gender-based violence (cases) in Belize (Statistical Institute of Belize 2021-2022)

	Male	Female
Life expectancy rate	77.666%	71.579%
Fatality rate	38.13	9.42
Gender-based Violence (Cases)	521	1,831

In its latest Country Profile on Health in the Americas+, PAHO/WHO points to a notably higher mortality rate among men than women. Its profile on Belize explains that death from non-communicable diseases was higher among men than women - the adjusted rate was 506.7 per 100,000 for men and 76.3 per 100,000 for women. The death rate is possibly related to men’s reluctance to seek health services as it goes against stereotypical gender norms regarding masculinity. There are also socio-economic considerations regarding men accessing health services, including the nature of their work and proximity to clinics.<sup>15</sup>

<sup>12</sup> See: <https://hia.paho.org/en/countries>. Accessed: October, 2022.

<sup>13</sup> <https://www.unfpa.org/data/world-population/BZ>. Accessed: September, 2022.

<sup>14</sup> See: <https://hia.paho.org/en/countries>. Accessed: October, 2022.

<sup>15</sup> Discussion on barriers to men’s access to health services, in the report Gender Based Analysis of HIV/AIDS in Belize, 2010. Sourced online at: [https://www.paho.org/blz/dmdocuments/Report\\_GBA\\_HIV\\_Belize\\_June2010.pdf](https://www.paho.org/blz/dmdocuments/Report_GBA_HIV_Belize_June2010.pdf)

Deaths categorized from communicable diseases were 104.7 per 100,000 for men and 76.3 per 100,000 for women.<sup>16</sup> Deaths from external causes, such as road traffic accidents (RTA) and gun violence, are leading causes of deaths among men. Data from the World Bank (2020) shows that RTAs account for 3.73 per cent of deaths; the male fatality rate is 38.13 compared to 9.42 for females. Occupational safety and health incidents affect more men than women since males engage in more physically demanding and machine labour activities involving higher health and safety risks.

Gender stereotypes related to education pervade, making it more likely that men will pursue subject areas and technical skills building most related to climate adaptation and mitigation. The enrolment rates at the Institute for Technical and Vocational Education and Training (ITVET) across the country, as shown in **Table 3**, indicate that male enrolment was at 71 per cent and for females at 29 per cent for the 2020/2021 academic period. Overall, this qualification is still under-subscribed for both males and females, but especially for females. Typically, more males than females attend ITVETs and earn technical and trade qualifications upon completing secondary school as a legitimate option for gaining employable knowledge and skills.

**Table 3:** Vocational and Training Enrolment in the Country (Ministry of Education 2020-2021)

Districts	Enrolment by sex (2020/2021)	
	Male	Female
Corozal	48	23
Orange Walk	196	16
Belize	127	23
Cayo	161	83
Stann Creek	57	24
Toledo	50	16

Generally, men are more primed to scale up skills and immediately access work in the emerging sectors related to climate change adaptation and mitigation. In alignment with gender stereotypes related to working in areas requiring technical knowledge and physical labour, women are less likely to participate in economic activities, including installations of innovative climate technologies and other relevant construction-based activities. Not only does this limit women’s economic activity and by extension, earning capacities, but it also limits the available workforce in emerging markets which can significantly advance Belize’s efforts in climate change-related enterprise. Therefore, support for gender-responsive training of women for technical

<sup>16</sup> Ibid.

competence in relevant fields is pertinent for climate change adaptation and mitigation and would advance national adaptation efforts.

Further to the above, women increasingly occupy leadership and management roles in the natural resource sector. Preliminary research on leadership in protected areas management in Belize found that women executives have higher qualifications than their male counterparts (Castillo, 2022). Additionally, the enrolment of female students in the Natural Resources Management Program at the University of Belize (see **Table 4**) shows almost equal numbers of women and men in 2021-2022, with increases in female enrolment from the previous year.

**Table 4:** Enrolment in Natural Resource Management Program (University of Belize, 2020-2021)

Degree	2020-2021		2021-2022		Total
	Male	Female	Male	Female	
Associates	28	<b>30</b>	26	<b>27</b>	111
Bachelors	14	<b>28</b>	24	<b>25</b>	91
Sub-total	42	<b>58</b>	50	<b>52</b>	202

The consistent level of female enrolment in the tertiary and undergraduate programs at the national university, bodes well for the inclusion of trained female and male professionals who can contribute to climate change mitigation and adaptation. The demand and necessity for these skills have been underlined in almost all of Belize's policies, strategies, and action plans in response to climate change - some areas demand skills that, currently, most men are likely to have. However, all have outlined the programming and investment priorities to forge closer links between the country's economic development and the sustainable management of its natural resources. The capacities to determine the extent to which the higher academic qualifications achieved by women and the program offerings of post-secondary institutions support a climate adaptation need to be strengthened so that women, like men, can contribute equitably and benefit equally.

Whilst social and cultural norms dictate that men make most of the decisions in the home, the burden of care and management of household resources falls disproportionately on women and girls. In alignment with gender stereotypes and the gender division of labour which associates caregiving and domestic tasks as part of women's work, generally, there is less expectation of men to engage in care activities. Women and girls are typically caregivers for the most vulnerable within a household, including providing care and support to children, older persons, those with chronic illnesses, or living with a disability.

This division of labour affects the types of roles women and men assume in the context of climate mitigation, adaptation, and response. For example, it is noted that due to the care-giving roles of women and girls they are also more relied upon in the home to promote and communicate adaptation measures at the household level. Conversely, more men occupy spaces for community decision-making and can influence relevant community mobilization, prioritization of messaging and decision-making on community infrastructure. However, this division of labour also puts much burden on women for the safety and care of the family. It potentially excludes them from decision-making at the community level, which will affect them. The approach, therefore, should be balanced.

Women’s burden of care affects their lives in compounded ways, negatively impacting their health and ability to access employment. Based on consultations conducted with men and women to assess time use during a 24-hour period, it was found that women dedicated an average of 8 hours a day to domestic and care activities within the household, while men did not dedicate any time to these activities. This highlights imbalances in the allocation of domestic and care activities with health-related implications. For example, the consultations revealed gender-based trends in the number of sleep women and men were able to get, with men getting approximately 6 hours of rest while women only had 4 hours of rest in the household (GCF, 2019).<sup>17</sup> Women’s caregiving and domestic work at home often leaves them vulnerable to unemployment and income inequality. Women’s livelihood options are especially reduced if care support is not available to them.<sup>18</sup> Climate adaptation can contribute to the reduction of gender inequality by mainstreaming efforts that alleviate women’s exclusion owing to care responsibilities in the home.

The unemployment rate for females is often higher, at 13 per cent, relative to men which were at 9.2 per cent.<sup>19</sup> At the height of COVID-19, both females and males shared the same underemployment rate at 21 per cent (**Table 5**).

**Table 5:** Underemployment and Unemployment Rates 2020-2021 (Main Labour Force Indicators, April 2020-2021 Statistical Institute of Belize)

<b>Unemployment/ Under-employment rates</b>	<b>April 2019</b>	<b>September 2019</b>	<b>September 2020</b>	<b>April 2021</b>	<b>September 2021</b>
Underemployment rate - male	11.4%	16%	23.8%	21.1%	18.4%
Underemployment rate – female	22%	33%	23.3%	21.1%	19.8%

<sup>17</sup> Gender assessment and Action Plan- Resilient Rural Belize concept note

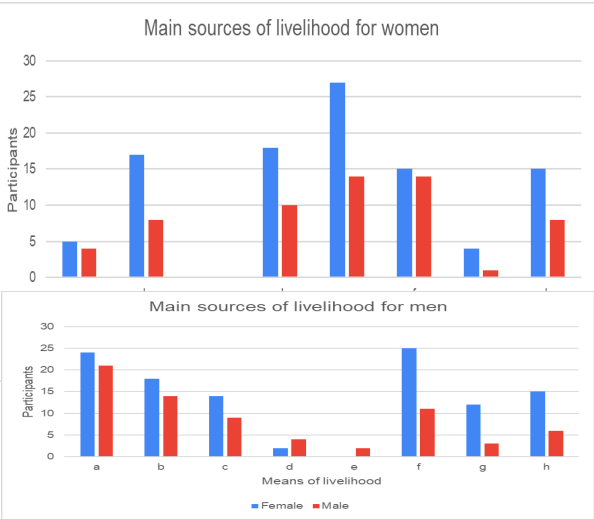
<sup>18</sup> Consultation with Hummingbird Environmental Tour Association, conducted October 2022

<sup>19</sup> Statistical Institute of Belize, Labour Force Survey Report, April 2021, [https://sib.org.bz/wp-content/uploads/LFS\\_Report\\_2021-04.pdf](https://sib.org.bz/wp-content/uploads/LFS_Report_2021-04.pdf). Accessed: May 2022.

Unemployment rate - male	5.2%	6.6% (7,239)	11.6% (11,825)	7%	6.7%
Unemployment rate - female	11.2%	15.7% (12,610)	17.4% (11,350)	17.4%	13.0%

Notably, not all women experience unemployment and participation in the labour force at the same rate. For instance, indigenous women (Garinagu and Maya) have higher levels of unemployment and are an especially vulnerable group of women. Although more Mayan women are staying longer in school, they are not attending school in large numbers. Garinagu women have higher levels of educational attainment relative to the Maya women, but they also experienced high levels of unemployment at 22.1 per cent during the height of the COVID-19 pandemic.<sup>20</sup> This is notable as it reflects the persistent vulnerability of these groups of indigenous women, as, despite their level of access to education, they are still not economically empowered. A focus on livelihood opportunities and income-generating activities in the context of climate adaptation can significantly reverse the high levels of unemployment women generally experience.

**Figure 8: Main sources of Livelihood for Women**



In the conduct of the stakeholder survey, participants' responded that the sources of livelihoods that women and men occupy were in the following sectors, i.e., a) agriculture, b) tourism, c) fisheries, d) health, e) education, f) business, g) firms and h) public service.

**Figure 9: Main Sources of Livelihood for Men**

As noted in the adjacent charts, economic activities are seen through the lens of stereotypical gender roles. These accurately reflect the resulting occupational sex segregation discussed above, where women are seen as more likely to be employed in areas of care, such as education and health, and men are more likely to be employed in agriculture and business.

Women's long-standing exclusion from the workforce means that work and income-generating activities aimed at strengthening adaptive capacities, especially at the local level, should consider the constraints and barriers that women often face as they try to enter the labour market. This includes addressing care provision and the expansion of social protection to enable women's transition into the workplace.

<sup>20</sup> Statistical Institute of Belize, Labour Force Survey (LFS) Report, April, 2021.

Climate adaptation for a small economy like Belize requires the intentional leveraging of the male and female workforce. It further highlights the urgent need to reduce gender inequality and to increase support for equality of access to livelihoods in adaptation-related activities for men and women.

## **This study**

The gender assessment aims to support PACT's on-granting obligations to focus on implementing interventions that significantly reduce the gender-related vulnerabilities and inequalities associated with the project components. This analysis considers that climate adaptation interventions occur in gender contexts and that the project should also find ways to address the existing gaps. Where women and men live and work, their social interactions, and decision-making spaces, are influenced mainly by sociocultural practices and beliefs, the nature of their participation in the economy, and societal norms. This gender assessment provides further details of these related matters in the context of the concept note, which focuses on climate adaptation in Belize.

## **Purpose**

The purpose of the Gender/Social Assessment is to:

- Assess the social and gender-based aspects of the project in the context of vulnerable communities and groups at the sharp-end of the impact of climate change and variability.
- Analyze positive and adverse impacts the project components may pose to women and men.
- Provide response options to mitigate against negative consequences or intended outcomes that further marginalized or excluded women from benefiting equitably from sub-project interventions.

## **Methodology**

The methodology employed for this assessment has been guided by the Updated Gender Guidance Document for Implementing Entities on Compliance with the Adaptation Fund Gender Policy (October 2022). The evaluation uses a Gender Equality and Social Inclusion (GESI) analytical approach that considers the intersectionality of social, economic, cultural, and political vulnerabilities and how men and women are differentially impacted by the same.

We collected data to determine the status of men and women in Belize in the social, economic, cultural and political domains. This data helped to identify gender-based vulnerabilities, inequalities and barriers to developing interventions for gender-responsive climate change adaptation and building community resilience to the negative impacts of climate change.

We analyzed and validated the data in three steps. In the first step, we undertook a desk review of relevant policies and available gender equality research and reports. Second, we surveyed stakeholders to determine the perceptions of female and male participants of how women and men shape and participate

in decision-making and economic activities in households and communities. Third and finally, we conducted a stakeholder validation workshop to review the results of the gender assessment and the feasibility study. Stakeholders, including community organizations, focused on conservation and natural resource development during the validation workshop on 19 October 2022. This session was the first validation session to complete the full proposal to the Adaptation Fund.

The stakeholder survey consisted of questions which addressed participant perceptions of the socio-economic, cultural, and political status of women and men, as well as their decision-making power and access to resources. The survey included questions regarding gender stereotypes, sources of livelihoods, and access to and ownership of land, amongst others.<sup>21</sup>

Stakeholder perceptions provided a baseline for determining the best strategies and approaches to the design of community-based interventions for response to climate change and disaster risk mitigation and response. As well the responses and feedback from the stakeholder's survey were also used to explain the results of the desk review further.

The survey participants comprised 56.6 per cent females and 43.39 per cent males, the majority of whom were 30-49 years of age.

## **PART II RESULTS**

Access to natural resources and to programmes regarding their sustainable management are differentially accessed by women and men. The gender roles men and women play in their communities typically lead to differential access to knowledge about the environment around them. Although women tend to have a unique understanding of the natural resources around them due to their role in gathering resources like wood, waste, forest products and subsistence agriculture, they are not consistently included in the design of associated policies, programmes, and frameworks.

The National Gender Policy, Food and Agriculture Policy, Forest Policy and Agroforestry Policy highlight the importance of women's participation in the economy and outline the scope of their participation in the productive sectors. However, women still face barriers to access land due to their socio-economic marginalization.

Stakeholder perceptions of gender and climate-related vulnerability validate the above. When asked whether there are existing gender inequalities that may be affected by climate change, 60.78 per cent of

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<sup>21</sup> A copy of the survey questionnaire is available with PACT



respondents said 'yes' and 39.12 per cent said 'no'. Of those who selected 'yes', they additionally chose options that the gender impacts of climate change would lead to male-dominated markets and jobs; working long hours in agriculture to secure food for the family; women owning less land; violence and victimization; limited access to services and health.

Fundamentally, lack of access to relevant resources has implications for the types of livelihoods women can access and limits their capacity to engage in sustainable and climate-smart practices for natural resource management. For women and men to participate in climate change adaptation activities, they need adequate resources. If one group has access but another does not, adaptation efforts invariably will not succeed.

The exclusion of women from the highest level of decision making and political representation, stands to inhibit the effectiveness of climate action and raises the vulnerability of women at multiple intersectional points. Whilst having more individual women in political leadership does not necessarily mean that women's overall equality will be advanced, it does support women's access to decision-making power in general. It can also increase the opportunities for the needs and interests of their women constituents to be better represented.

The Intergovernmental Panel on Climate Change (IPCC) recognizes indigenous women, older women and women belonging to minority ethnic groups as being most vulnerable to climate change.<sup>22</sup> In Belize, these women are vulnerable because of a link between their socio-economic status and their ability to adapt to and deal with climate change. Specifically, women engaged in livelihoods dependent on natural resources already face challenges in Belize, particularly women in rural areas. For example, in areas where extractive industries are active, such as mining and timber harvesting, women may experience a depletion in the quality of natural resources adjacent to their communities. This could include the shortage of water resources, loss of biodiversity, game meat, and non-timber products, which they rely on for subsistence, well-being and income generation.

As climate change affects livelihood opportunities, women may undertake non-traditional jobs, but they can also face an increased risk of gender-based violence. Climate change will affect gender roles through the loss of livelihoods or food insecurity, and men may lose their ability to perform socially ascribed roles while women are compelled to take on employment to substitute income and losses in male income and production.<sup>23</sup> These response actions could lead to a shift in power dynamics that may result in violence against women.

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<sup>22</sup> Sourced online at: <https://www.ipcc.ch/about/gender/>

<sup>23</sup> UN General Assembly, Violence against women and girls, its causes and consequences, UN Secretary General Note, UN General Assembly, 11 July 2022.

Women in income-poor households who live on lands in flood plains and water catchment areas are also directly affected by climate change. Some of these areas are informal settlements, but they can also be official lands that lack planning and regulation. Many women and their families are already experiencing the impact of climate change during slow-onset disasters or from rapidly occurring weather events such as torrential rains and flash flooding in settlements.

Financing for agricultural enterprises is extremely challenging for women to access. Finance and lending for agricultural production are still considered risky by financial institutions, and this service is mainly available to a small number of commercial producers who are expanding their businesses. Women are challenged to access financing for agriculture financing because they do not typically own large farms or have a history of ownership of enterprises with large-scale agricultural production.

## **Conclusion**

Whilst Belize has made progress towards more gender-responsive development, specifically for climate change adaptation, mitigation and response, there is still much to be done. Currently agreed international frameworks and national policies and strategies will have to be respected and implemented vigilantly if meaningful change is to occur.

Climate change-related hazards and impacts brings to the forefront the immediate need to develop specific capacities, resources, cultural practices and governance opportunities so that both men and women can participate inequitably. Fundamentally, this means that their gender-based peculiarities must be met, as men and women are not impacted in the same ways by climate-based variability. Notably, women face significant constraints owing to existing economic, social, and cultural practices and policy directives that reinforce or fail to address pervasive gender inequality.

These inequalities limit women's ability to participate in their communities and broader societies in more balanced and empowering ways. Women are still not provided equitable access to economic networks and opportunities emerging in climate change-related sectors, as they are not accessing the required education and skills. The lack of women's inclusion also limits Belize's ability to meet the labour requirements for the expansion of sustainable development-related enterprise and limits innovation and the building of adaptive capacity.

Overall, women in Belize are insufficiently engaged in the economy to offset the high costs of efforts and interventions for climate adaptation. While they stay longer in school and have higher qualifications than their male counterparts, they generally do not leave with the skills and the technical expertise needed to implement climate change interventions, such as engineering, construction, and electrical trades. Women

are under-represented at the highest level in government and therefore have limited voice in governance, policy and agenda setting for climate change adaptation.

Attention to women's access to new employment opportunities and to financing that will grow their businesses for increased climate change adaptation and resilience. Additionally, increasing women's access to and ownership of land for productive purposes is an area needing urgent attention to reduce their economic exclusion and marginalization. Further, women need support to balance the burden of care especially at the household level. Support with care responsibilities and social protection benefits will enable women to pursue income generating options that will improve their resilience to the impacts of climate change and variability.

Decision-making spaces also require the balanced representation of men and women and shared household and community responsibilities to build more agile, balanced, and harmonious community responses to climate hazards. Recognizing that women are not a homogenous group, attention to the most socio-economically marginalized and vulnerable must be paid, and interventions developed accordingly.

Income poverty due to unemployment and underemployment disproportionately affects women in Belize relative to men. Women in rural areas have precarious employment, and indigenous women require more equitable access to culturally relevant education.

Additionally, supporting women in transitioning from rural to urban areas, including navigating social protection supports and urban job markets and related settings, is required.

Addressing violence against women and gender-based violence, in general, is also a critical component of climate change adaptation programming; as the more vulnerable people and communities become, the more violence and tension increase. In small communities already struggling, especially those dependent on natural resources for their livelihoods, special attention needs to be paid to maintaining the communities' social, physical, and economic well-being.

Stakeholder survey results suggest an ongoing cultural context in which the gender division of labour remains entrenched according to stereotypes about women's and men's capacities. Important to note is that male and female respondents share similar perceptions of gender social norms, expectations, and circumstances. This gives insight into the types of interventions required for community-based planning, particularly addressing communication, encouraging shared responsibilities and engaging transformative approaches.

It is important to consider how to transform imbalances in power relations between men and women while recognizing the spaces in households and societies that they occupy. For example, women can be seen as custodians of natural resources and can communicate its value to build community ownership. Women are usually engaged in local-level advocacy and small-scale activities, which, when implemented, can have an immediate and long-term impact in the communities. They are also a captive workforce who, if supported, can be active proponents for community climate adaptation.

Fundamentally, climate change interventions must be gender-responsive, and there must be an investment in targeted and directly impacting interventions that can transform communities and households.

### PART III: Gender Action Plan

The following gender action plan of the project aims to ensure equal participation of men and women and to integrate the gender-related needs of the local communities into the technical design and the way the project is implemented. The Gender Action Plan describes the proposed measures to be included in the project design and implementation to promote gender equality and mainstreaming in the activities and consequently the outputs of the project. In particular, it focuses on the gender concerns relating to equal access to opportunities, participation in decision-making, women’s access to training and practical skills, and how the plans/strategies developed will ensure equal opportunities for women.

Table 37: Gender Action Plan

Project Components	Outcomes	Gender issue	Action	Indicator	Beneficiaries	Responsible Party
<b>Component 1: Safeguarding forest and water resources through strategic protection and restoration for watershed in country</b>	-Improved water quality of rivers  -Enhanced ecosystems services linked to the restoration of riparian forests and the aquatic environment	-Both men and women depend on forest resources and their ecosystem services;  -Women and men have different needs, uses, preferences and knowledge in relation to ecosystem services;  -Women primarily depend on forest and watersheds	Establish partnership programs, including exchange programs, for both rural men and women to work together to reduce threats to water resources in their respective communities;  -Support rural organizations, women’s groups, and schools to provide education	-No. of women who participate in watershed management exchange programs;  -No. of schools who participate in outreach programs;  -No. of women’s organizations that	-Members of women’s groups;  -Members of village councils;  -Teachers;  -Community-based organizations;  -Schools, women’s groups	Ministry of Rural Development  -DAVCO;  -Forestry Department.  -PACT  -Implementing agency.

	<p>for subsistence; -Men primarily depend on forests for subsistence, income-generation, and/or commercial purposes; -Under-representation or exclusion of women in watershed management.</p>	<p>and outreach programs in support of actions to reduce risks to watershed loss and protection of water quality. -Monitor gender participation in watershed restoration programs and projects, and document progress, revise the plan as needed.</p>	<p>participate in education and outreach programs. -No. of women with project roles in implementing agencies.</p>	<p>Community - based organisations -Implementing entity.</p>	
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<p><b>Component 2:</b></p> <p><b>Combating wildfires through adaptive management</b></p>	<p>Enhanced protection from fires</p>	<p>-Gender arrangements impact and shape wildfire prevention and response in rural communities;</p> <p>-Women are limited or excluded from participating in the design of policies to manage, plan, and train for wildfire at the local level;</p>	<p>-Provide technical and logistical support for the creation inclusive Fire-fighting Community Brigades;</p> <p>-Support community leaders in creating by-laws for the management of fires;</p> <p>-Conduct inclusive wildfire preparedness and response trainings in pilot communities;</p> <p>-Provide trainings for farmers, hunters, women and rural community leaders on their roles and responsibilities in wildfire prevention;</p> <p>-Develop and implement community fire-load reduction strategies, especially after hurricanes;</p> <p>-Develop and implement wildfire communication strategy for rural communities at risk;</p>	<p>-No. of wildfire management zones identified;</p> <p>-No. of fire paths or firebreaks constructed;</p> <p>-No. of women and girls who are members of pilot fire brigades;</p> <p>-No. of women and men who participate in wildfire preparedness and response training;</p> <p>-No. of women targeted in communication</p>	<p>-Farmers;</p> <p>-Hunters;</p> <p>-Producers Organizations;</p> <p>-Women's groups;</p> <p>-Schools.</p>	<p>-Rural Development</p> <p>-Agriculture Department,</p> <p>-Department of Women and Children,</p> <p>-Forest Department,</p> <p>-Department of Environment,</p> <p>-Lands Department,</p> <p>-National Climate Change Office,</p> <p>-Ministry of Works,</p> <p>-BTB,</p> <p>-NEMO /DEMO,</p> <p>-National Meteorological Service</p>
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<p><b>Component 3:</b></p> <p><b>Creating opportunities to support alternative livelihoods</b></p>	<p>Increased livelihoods</p>	<p>-Men play a greater role in natural resources exploitation than women;</p> <p>-More men than women are engaged in agriculture and tourism activities.</p>	<p>-Promote women inclusion in the management of forest plantations, harvesting, processing, timber and non-timber harvesting, and sale.</p>	<p>-Percentage of rural women participating in agroforestry</p> <p>-No. of rural farmers aware of ecological dynamics and technological innovations</p> <p>-No. of people receiving technical assistance and support.</p>	<p>-Rural women</p> <p>-Rural men</p> <p>-Rural youth</p> <p>-Indigenous women and men</p>	<p>-Rural Development</p> <p>-Agriculture Department</p> <p>-Department of Women and Children's Affairs</p> <p>-Forest Department</p>
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<p><b>Component 3:</b> <b>Creating opportunities to support alternative livelihoods</b></p> <p>Increased number of climate smart food production systems</p>	<p>Increased number of climate smart food production system</p>	<p>-Women are held responsible for food security of their children, particularly dealing with the consumption needs (water, food, energy, and other household materials) and nutrition of the family;</p>	<p>-Support programs to encourage rural farmers to integrate the use of climate smart agriculture techniques,</p>	<p>-No. of male and female rural farmers aware of ecological dynamics and technological innovations;</p> <p>-No. of men and women receiving technical assistance and support</p>	<p>-Rural farmers -Small-scale or subsistence farmers -Large-scale agriculture stakeholders -Rural women -Rural men -Rural youth -Indigenous women and men</p>	<p>-Rural Development -Agriculture Department -Department of Women and Children's Affairs -Forest Department -Rural Development -Agriculture Department -Department of Women and Children -Forest Department -Department of Environment -Lands Department -Health Practitioners -National Climate Change Office -Ministry of Works -BTB</p>
<p><b>Component 4:</b></p>	<p>Increased technical capacity to</p>	<p>-Gender disparities evident in access</p>	<p>-Assist rural communities, organizations,</p>	<p>-No. of vulnerable women and</p>	<p>-Rural women</p>	<p>-BELTRAIDE</p>



<b>Building National Capacity to Access Adaptation Finance</b>	better access climate finance	to finance, resources, tools, trainings, -Land and services different for women and men; -Women have less access to financial aid, resources and services; -Women more vulnerable to economic shocks and stressors; -Extension and vocational training, as well as technical assistance for women limited in rural communities;	and groups to build their capacity to access climate finance; -Increase opportunities for experiential learning -Enable better budget flexibility	women's groups and organizations accessing climate finance -No. of women's groups receiving technical support in financial management -Number of financial mechanisms to support climate change adaptation for women producers	-Rural men -Rural youth -Indigenous women and men -Afrodescent women and men -Rural Community leaders (Village Councils' leaders, Alcaldes) -Women's groups -Religious Groups -Youth Groups -Community Forestry groups -Private Landowners -Rural small Farmers -Community-based groups -Tour guides	-ITVET -Ministry of Agriculture -Ministry of Rural Development -Ministry of Economic Development -Credit Unions -DFC
<b>Component 5: Community disaster risk management</b>	Increased technical capacity to address flooding	-The burden for household disaster prevention and management can fall disproportionately to women and	-Provide training to women and youth groups in disaster and emergency management; -Support schools to implement	-No. of women who received disaster management training; -No. of schools with	-Women's groups -Students -Teachers -Rural women	-NEMO -Ministry of Education -Belize Red Cross

Drainage system in flood-prone areas installed		girls	disaster management in curriculum; -Partner with rural community leaders and agencies to identify flood-prone areas; -Support communities to install drains and drainage systems in areas that flood	curriculum on disaster management and response -No. of communities involved in drainage system projects -No of drainage systems projects implemented -No. of men and women employed in the construction of natural and man-made drainage systems	-Rural men -Rural youth -Indigenous women and men -Afro-descent women and men -Rural Community leaders (Village Councils' leaders, Alcaldes) -Women's groups -Religious groups -Youth groups -Community forestry groups -Private Landowners -Rural small farmers -Community-based groups -Tour guides -Various tourism sector partners	-DAVCO -NAVCO / DAVCO -Rural community leaders (Village Councils' leaders, Alcaldes) -Women's groups -Religious Groups -Youth Groups -Community Forestry groups -SFM stakeholders -Private landowners -Rural small farmers
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Through this project, it will be ensured to include female and youth involvement, including indigenous women and youth groups in climate change discussions, training, and capacity building initiatives. Women are represented in all NGO and community groups that have been met with to develop this project proposal

and so communications with these women and youth will be continued if the project is implemented. While implementing activities women's knowledge, needs and roles will be reflected, while also incorporating indigenous expertise and traditional practices. Women comprise a large portion of the workforce in the tourism and agricultural sector; thus, they need to be provided with the same access to resources and training opportunities. When reaching out to community groups and indigenous groups special effort will be made to ensure equal representation of males and females, while ensuring that those who are chosen have the interest in supporting the project and in the learning opportunities that will be provided. Groups such as NAVCO, BENIC, the National Women's Commission and others will also be consulted throughout the entire process. The project will build on the capabilities, unique knowledge, and perspectives of women, to not only build their climate resilience but also make them active agents of the project.

## ANNEX II FEASIBILITY STUDY

### PART I: ANALYSIS OF THE SITUATION

#### Introduction

The International Monetary Fund (IMF) (2018) states that although Belize is undertaking a significant program of resilience building investment, it is estimated that the country is spending one-third of its capital budget (US\$ 25 million) in doing so.<sup>24</sup> However, Belize needs approximately US \$548 million per year to meet the needs of climate change strategies.<sup>25</sup> Financing from the Adaptation Fund will enable the implementing organizations of PACT to facilitate the improvement in the well-being and livelihoods of populations who live in vulnerable communities. These communities have a traditional dependence on natural resources, but are now faced with multiple vulnerabilities owing to the impacts of climate variability and change.

In its concept note to the AF, PACT explained that since Belize's economy is built on its natural resource base, and because historically and culturally the country is highly reliant on ecosystem services, the effects of climate change and variability will significantly impact livelihoods, communities, the productive and social sectors. To enhance its resilience to future climate risks and hazards, Belize will need to address multiple areas of vulnerabilities to adapt to the impacts of climate change. The main objective of the project, therefore, is to restore and enhance the protection of vital ecosystems and corresponding ecosystem services. Doing so will improve the well-being and livelihoods of communities that depend on natural resources. Furthermore, the project aims to introduce viable strategies and mechanisms that address prominent climate change impacts and secure the resources for climatic response via adaptation.

This feasibility study examines the base economic, social, and environmental contexts that will have an influence on the implementation of the project and hence, the ability of Belizean communities to address threats posed by climate change and variability. The study is driven by an analysis of the existing literature and consultations with some stakeholders. These consultations have informed the nature of the project components, considerations for sub-project formulation and implementation, and the capacities of potential implementing partners.

#### 1. Methodology

A literature review and desktop analysis was conducted to document the context in which the project would

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<sup>24</sup> See International Monetary Fund: Belize Climate Change Policy Assessment. Accessed Sept, 2022

<sup>25</sup> same as above

be developed and implemented. This review enabled the identification of the main stakeholders, project interventions, the institutional frameworks, and the policies and regulations that guide climate adaptation programming in Belize. It also includes a review of related studies, data and information from previously implemented projects along with references to applicable policies and legislation.

A survey was designed and administered among stakeholders to gauge their expectations and the prioritization of sub-project activities within the five (5) components of the project. The survey provided stakeholder respondents to specify adaptation interventions with potential for scale-up and replication. This data collection process was conducted with key informants and respondents in the public sector service, civil society and community based organizations, and village leaders.

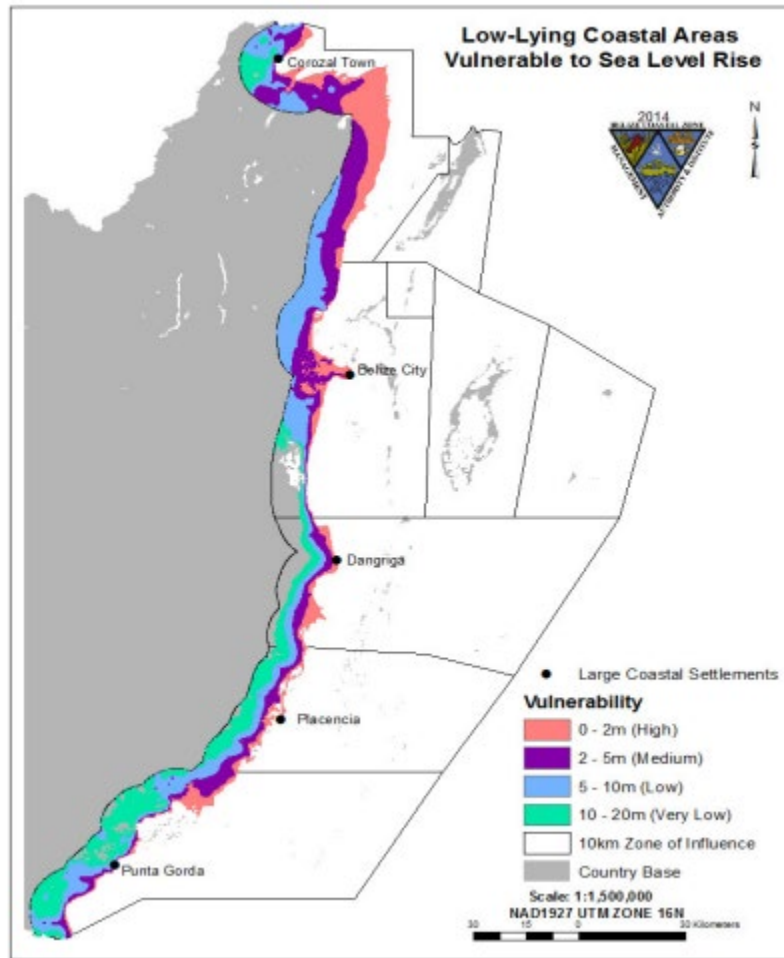
The stakeholders were identified through consultations with PACT and guided by the findings of the literature review. This review pointed to actors who were either implementing or supporting the implementation of related projects and programs. In situations where stakeholders were unable to complete the survey, telephone interviews were made to ensure the inclusion of their perspectives and feedback were registered. Two stakeholders' validation sessions were conducted virtually.

## **2. Climate rationale for the project**

Since 2009, climate projections on average temperature and rainfall in Belize for the period 2010-2100 show an increase in the average annual temperatures to 3.5°C (6.4°F) over the 90-year period, and an average rainfall decrease by 100mm. Belize will not only experience a reduction in rainfall, but rainfall will become more intense in shorter periods (UNDP, 2009). Due to the country's geographical location, Belize is significantly exposed to the risk of rising sea levels and increasing frequency and intensity of tropical storms. Projected models for the 2050s indicate rainfall change of -20% to -30% from the reference period 1961 to 1990 under the worst-case scenario by the 2050s, and around -50% to -60% change by the 2080s. Projections of atmospheric moisture deficit/surplus (P-E) indicate that by the 2080s, dry months' deficits will decrease slightly, but the wet season months will see a decrease in moisture. The implications are that shifts in the weather will produce less intense dry seasons, but wet seasons will produce less rain (CaribSave, 2009).

Tropical storms and hurricanes that affect Belize are increasing in intensity each year, and since many areas are located below 20 m of sea level, they are prone to flooding as indicated on the hazard map (**see Figure 1**). Substantial areas inland and along the river valleys, especially the Mopan, Macal and Belize Rivers, feature below 10m of sea level and are subject to inundation during major storms and persistent rainfall. Notably, Belize City which is the major economic hub is 10m below sea level and will continue to be affected by sea-level rise.

Figure 1: Hazard Map of Belize



Source: CaribeSave (2014)

Belize has also experienced climatic changes and variation such as drought, flooding, change in precipitation and temperature patterns, sea-level rise, and coastal erosion. Many residential areas both inland and coastal are constructed in areas of poor drainage. In Benque Viejo Town, the Belize River Valley and some areas of rural Toledo District, there are residential areas on lands that are drained and reclaimed or in flood plains. Growing urbanization in Belize also bears people's access to regulated housing development sites, especially for families from poor households. Increasingly, economically marginalized populations are living on lands where they will be immediately affected by weather events. Some of these areas are informal settlements but they can also be official lands that lack any planning and due diligence for construction. Families living in these areas are already experiencing the impact of climate change during slow onset of floods or from rapidly occurring weather events such as torrential rains and hurricanes. Protection of these areas will require the construction of drains and drainage systems that can withstand the magnitude of the floods that they are experiencing. Additionally, the damage to infrastructure as well

as the economic losses will erode the capacity of a large portion of the population to build resilience to climate change and variability.

Additional impacts of climate change are experienced in the productive sectors with direct impact on the livelihood of a large part of the population. Since Belize's economy is largely based on its natural resources, climatic events and variability can jeopardize the sustainability of agricultural production as well as the services and provision made available from natural, ecological systems. Heavy and consistent rainfall, and floods during the hurricane season (recent experience with: Hurricane Julia, October 2022; and Lisa, November 2022), will continue to cause coastal erosion (example Money River Village), drought and loss of ecosystems like littoral forests upon which many households rely for their livelihoods.

Belize had higher forest cover until the 1960s when large-scale agriculture steadily replaced forestry as the main economic activity of Belizeans. Both large-scale agriculture (i.e., citrus, banana, sugarcane) and aquaculture (i.e. shrimp and tilapia farming), and coastal development, have escalated at the expense of the forests and littoral forests alike. Other contributing factors towards the high deforestation include illegal use of protected areas for farming, hunting, and harvesting of non-timber forest products (Young, 2008). The traditional production practices which rely on slash and burn cropping systems, the arbitrary use of chemicals, and crop cultivation near rivers and on hillsides have increased soil erosion and degradation of landscapes and the provision of ecosystem services.

The water quality in the Belize River Watershed is diminished by the excessive use of agrochemicals and fertilizers in crop production. Chemical seepage is now likely groundwater supplies in the BRW. For instance, four villages in the northern districts have found high concentration (above the norm 10 mg/L) of nitrate in groundwater (Husaini et.al., 2020). High concentrations of micro-plastics have also been found in the Mopan River in the Cayo District. It is also likely that micro-plastics can be found in all rivers in Belize and these will eventually find their way into the marine ecosystem (GoB, 2019). Although there are existing efforts to improve the disposal of solid waste nationally, improper disposal continues to pose a threat to the country's land and water resources. The frequent burning of waste contributes to environmental harm and inadequate liquid-waste management is also accelerating natural resource degradation.

Some populations are at particular risk to the impact of climate change. In Belize, women are vulnerable to climate change because of the link between their socio-economic status and their overall abilities to adapt and deal with its impacts. Rural women, whose livelihoods are centered on small-scale production and farming, will experience the impact of climate change especially when they are cut off from services, transportation, and markets in times of climate events such as floods and hurricanes. In areas where they experience drought, women and their households may experience the depletion in the quality of natural resources adjacent to their communities. These effects will deplete water resources, biodiversity, and non-timber products upon which they rely for subsistence, wellbeing, and income generation.

Although fire plays a role in farming, their use can exacerbate the impact of climate change. Poor fire management can damage large tracts of land, trees, biodiversity, and natural resources that serve as

buffers to climate change and variability. In the central, western, and southern regions of Belize, households rely on wildlife that graze on new shoots in the aftermath of wildfires. In communities where these practices are prevalent, fire prevention and management are both important to build resilience to climate change and variability.

The project proposes to address these issues, by strengthening the resilience of both the natural and human resource bases. This means it can support a consolidated effort at the community and local levels to shore up environmental resources such as water and biodiversity, improving sustainable income generation and production. Furthermore, installing and improving physical infrastructure to enhance security and protection from weather events, and strengthening technical competencies and skills to expand knowledge and practices for climate resilience can improve adaptability at both the household and community levels.

### **3. Governance of national climate action goals**

Belize is committed to achieving and supporting the global target to limit the increase in global average temperature to 1.5°C as per the Paris Agreement. The country is committed to strategically transition to low carbon development while strengthening its resilience to the effects of climate change.<sup>26</sup> Some key national frameworks govern Belize's commitment to climate action.

#### **Horizon 2030**

Horizon 2030 is the national development framework that guides the long-term development priorities which the country aspires to reach because of targeted investment and policy outcomes. This national development framework is underpinned by seven thematic areas that falls under three main themes: 1) Future Development, with a focus on Democratic Governance as a foundation for development, Citizen Security and Access to Justice; 2) Education for Development, with a focus on education for life; binding constraints- generating resources for long term development with a focus on, building a resilient economy and on key productive sectors; 3) and, the Bricks and the Mortar- the Core of the Long-term Development Framework which are, healthy citizens throughout the life cycle and care for the natural environment.

#### **Plan Belize**

Plan Belize (BLU#planBelize, 2020) is guided by a commitment to social, economic, and environmental justice.<sup>27</sup> This plan is built to promote synergy across government ministries, civil society, communities and external partners to implement its six strategic goals (1. Poverty Reduction, 2. Economic Transformation and Growth, 3. Trade Deficit Reduction, 4. Citizen Security, 5. Protection of the Environment and 6. Stop Corruption). Plan Belize proposes to build resilience to climate change disasters and risks through

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<sup>26</sup> Nationally Determined Contribution under the United Nations Framework Convention on Climate Change, See [https://unfccc.int/files/focus/ndc\\_registry/application/pdf/belize\\_ndc.pdf](https://unfccc.int/files/focus/ndc_registry/application/pdf/belize_ndc.pdf) Accessed Oct 2022

<sup>27</sup>



education, preparation, diversification, and innovative climate-smart systems of land use, in particular for the small producers and farmers in high-risk regions. Plan Belize will facilitate direct support to farmers and smallholders through the services of agriculture extension officers for rural and urban farming and urban gardening. For forestry, Plan Belize will promote a program of reforestation and facilitate the introduction of new surveillance technology to monitor and protect forest reserves. Plan will also spearhead work with the Alliance of Small Island States (AOSIS) and other partners to protect and preserve the environment while building climate resilience and addressing climate change.

#### **National Climate Resilience Investment Plan**

The national climate resilience investment plan will result in increasing resilience of women and men, the economy and environment in Belize to climate variability and climate change. The plan will articulate strategies for adaptation to climate change, reduce poverty and enhance economic growth for sustainable development. This gives the opportunity to build climate resilience and capacity to improve disaster risk management across all sectors in Belize including in areas specific to technical data and knowledge transfer, physical interventions, non-physical intervention, policy and regulations,) and coordination, monitoring and evaluation.

#### **Nationally Determined Contributions (NDC)**

The NDCs are the national commitments that Belize made to act on climate change as part of the Paris Agreement of 2015, and as agreed on by 193 member states of the UN. Belize's NDCs are aligned with the overall goal of the Growth and Sustainable Development Strategy (GSDS) which encompasses medium-term economic development, poverty reduction, and longer-term sustainable development goals and enabling conditions.

## **4. Legislation and regulations in the intervention sector**

Belize has an institutional framework to facilitate the processes for implementation of the project components. There are also institutional partners and guidance mechanisms that can support both the design and implementation of sub-projects for climate resilience and adaptation. However, the inherent challenge to such a framework is to enable and support mechanisms for cross-sectoral planning and execution to deliver on the expected outcomes. **Table 1** provides an outline of the policies that underpin the institutional frameworks for the areas of intervention.

**Table 1.** Legislative and Regulatory Frameworks

Institutional Framework	Summary
<b>Forest Act</b>	The Forest Act (2000 REVISED) Laws Chapter 213 and 213s regulates and protects forest trees, primarily, hardwood, i.e., mahogany, cedar and teak; secondary hardwood which includes any other hardwood not defined as primary; softwoods, i.e. tree of any indigenous species and trees of coniferous class that have been introduced into Belize.
<b>Protected Areas Conservation Trust Act</b>	This Act establishes a trust for the protection, conservation, and enhancement of the natural and cultural resources of Belize. The revised Act in 2011, states that the Protected Areas Conservation Trust, Chapter 218 of the Substantive Laws of Belize, Revised Edition - to provide for a new definition of "Protected Area" and a new composition of the Board of Directors; to expand the functions of the Trust; and to further strengthen the provision of the Act in order to enhance the operations of the Trust in achieving its mission of promoting the sustainable management of Belize's protected areas.
<b>The Environmental Protection Act Chapter 328</b>	This Act provides the government with comprehensive environmental protection authority needed to address modern environmental pollution. It grants broad regulatory and enforcement authority to the prevention and control of environmental pollution, conservation and management of natural resources and environmental impact assessment.
<b>National Fire Act and Fire Brigades Act</b>	The National Fire Act established the national fire service and brigade to protect life and property from fires and explosive hazards with the assistance of the Belize Police Department.
<b>Belize Building Act 2017</b>	This Act outlines regulatory measures for buildings and the construction of buildings (any public road, any bridge or culvert on which the road is carried, sewer, water main, electricity supply line and any reservoir) are to meet and comply with. These standards and regulations are to ensure the protection and well-being of civil society. This must be done through the Building Unit that is within the Office of the Mayor and the town councils.
<b>Disaster Preparedness and Response Act, 2000</b>	The Act is to ensure that there are effective and coordinated actions for mitigation, preparedness for natural disasters and response and recovery efforts as the need arises. The National Emergency Management Organization (NEMO) is the sole department of the GoB responsible for preparing for and responding to hurricanes and floods and other national emergencies.
<b>PACT's Environmental and Social Management Framework (ESMF) for projects and programs</b>	The ESMF is a project funded by PACT to provide overall guidance on environmental screening and management. It is an instrument to assess, manage, and monitor environmental and social risks, including the establishment of relevant policies, procedures, and methodologies for PACT-funded projects and third-party investments. For the adaptation projects, the following two policies are key: <ul style="list-style-type: none"> <li>● The Revised National Gender Policy, updated Version, 2013; and</li> <li>● Protected Areas Conservation Trust Gender Policy, 2020.</li> </ul>

<b>National Integrated Water Management Act</b>	This Act concerns the management and conservation of water resources in Belize. The conservation measures also aim at the prevention of the pollution of water resources.
<b>Town Council Act, Revised Edition 2000</b>	The Town Council Act regulates municipal management in areas of sanitation, administration of fees, management of public spaces, public hazards, streets and infrastructure.
<b>Village Council Act</b>	The Village Council Act regulates the general functions of village councils to enable good governance and improvements in all villages as directed in the provisions of the Act. For mitigation and adaptation interventions, village councils are mandated by law to prevent and extinguish fires; impose such restrictions upon owners of land in villages as may be necessary to prevent any building upon such land from being or becoming a source of danger to surrounding property, whether from fire or from its insecure construction or dilapidated condition; ensure that sound environmental practices are adhered to by all persons within the village; and generally for the proper carrying out of the provisions of this Act and for the efficient governing of the village.

## 5. Policy framework for the intervention sector

Climate Adaptation measures are an important part of the national development framework for Belize. As a small island developing state (SIDS), Belize is at the sharp end of climate change. This vulnerability is fully recognized in the long and medium terms development trajectory which both account for climate change mitigation and adaptation measures. To this end, Belize has instituted national policies and mechanisms to build resilience at the local and national levels. These policies and mechanisms provide for implementation guidance for the five components of the project (see Table 2).

**Table 2:** List of Policies and Mechanisms Aligned to Climate Change

<b>Policies and Mechanisms</b>	<b>Summary</b>
<b>National Climate Change Policy, Strategy and Action Plan</b>	Provides guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies, sectors and contributes towards the development of the Nationally Determined Contributions (NDCs) of the country
<b>National Integrated Water Resources Management Policy for Belize</b>	Focuses on guiding the management of Belize's water resources.
<b>The National Solid Waste Management Policy (NSWMP)</b>	Addresses the management of solid waste to ensure that the system of managing waste is both financially and environmentally sustainable and does not interfere with the quality of life of the people.
<b>The Revised National Gender Policy, update version 2013</b>	Outlines five major policy priorities for gender empowerment where all men and women including boys and girls can achieve their full potential, in mutual respect, and are equal partners within the society and while they sustain and enjoy their economic, social, political, and cultural development.

<b>National Development Framework 2020-2030</b>	Proposes a pathway for sustainable development through democratic governance, effective public administration, education for development, economic resilience, healthy citizenry and speaks to the importance of citizen participation and engagement through effective management of public resources to meet public needs. It prioritises quality education where all children have access to at least a secondary education and proposes the creation of a resilient economy through which all businesses and entrepreneurs use the appropriate technology to increase productivity and competitiveness in an environmentally sustainable way.
<b>National Biodiversity Strategy and Action Plan (NBSAP)</b>	Details the core strategies and actions to conserve Belize's biodiversity stock and resources that are in harmony with improved quality of life and livelihoods. It outlines how to improve environmental stewardship by understanding the importance of marine, freshwater and terrestrial biodiversity and their benefits and values. It focuses on reducing the direct and indirect pressure on ecosystems so as to sustain and enhance the country's biodiversity and the functional ecosystem services that it provides through capacity building and public participation.
<b>National Agroforestry Policy</b>	This policy is to enable improved productivity, resilience and sustainability of agriculture and forestry through the adoption of agroforestry systems that promote improved livelihood and wellbeing of the present and future generations, with particular attention to substantively include the youth, women, Mayan peoples, and other impoverished populations in Belize.
<b>Forest Policy</b>	This policy gives direction to ensure compatibility with the nation's economic development, to create and maintain the national forest estate taking into consideration the need for agricultural development and the protection of the environment.
<b>Medium-term Development Strategy</b>	The strategy focuses on six strategies: poverty reduction including social protection, economic transformation, and growth, reducing trade deficit, citizen security, protection of the environment and stopping corruption. The MTDS is overseen and coordinated by the Ministry of Economic Development.
<b>National Environmental Policy and Strategy 2014-2024</b>	This policy and strategy promote best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others.
<b>National Food and Agriculture Policy 2015-2030</b>	Seeks to promote home food production utilizing backyard container gardening technologies and to develop and implement programs targeted for women within the agriculture sector to become a support for family agriculture and home gardening through production of home goods.
<b>National Hazard Mitigation Policy, 2004 (Final Draft)</b>	This policy guides activities relating to the mitigation of natural and technological hazards that do not currently exist in the country. It provides an integrated approach to hazard risk management and sustainable development at all levels of society and a benchmark for stakeholder cooperation to actively address hazard reduction issues within the ambience of development planning to avoid incalculable and irrecoverable damages to the environment including social and economic development.

<b>MSME Strategy and Roadmap for Belize</b>	The strategy and roadmap aim to foster the creation of a vibrant, competitive and supportive MSME ecosystem that facilitates entrepreneurship, job creation, scaling, value added products and services, and exports.
<b>National Investment Policy and Strategy</b>	This policy seeks to establish a public framework to direct domestic and foreign investments. The goal of the policy is to establish with greater certainty and predictability the general directions toward economic development and how citizens can participate and benefit from this through investment.
<b>National Climate Resilience Investment Plan</b>	This plan establishes a public framework to direct domestic and foreign investments. The goal of the policy is to establish with greater certainty and predictability the general directions toward economic development and how citizens can participate and benefit from this through investment.
<b>National Climate Resilience Investment Plan</b>	The national climate resilience investment plan will result in increasing resilience of women and men, the economy and environment in Belize to climate variability and climate change. The plan will also articulate strategies for adaptation to climate change, reduce poverty and enhance economic growth for sustainable development.
<b>National Climate Change Policy, Strategy and Action Plan</b>	The policy, strategy and action plan provide guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies and sectors. The implementation of the policy and its action is coordinated by the National Climate Change Office (NCCO) and the Ministry of Sustainable Development, Climate Change and Disaster Risk Management. The policy guides the work of all government, statutory, non-governmental and civic entities which are involved in, or seek to become involved in, addressing climate change in Belize.

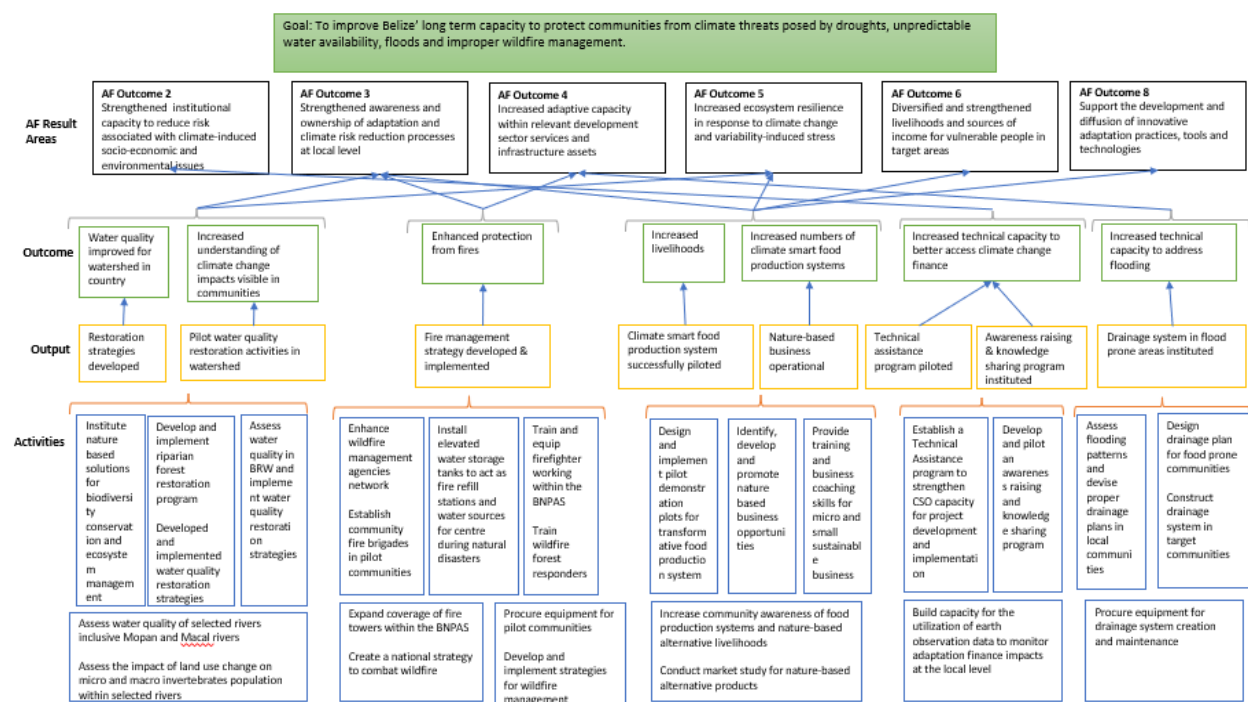
Belize has signed on to various international agreements such as the Kyoto Protocol, UN Framework Convention for Climate Change (UNFCCC), Convention on Wetland of International Importance, and the Paris Agreement. However, the country does not yet have a specific climate change legislation. On the basis of this feasibility study, Belize has a satisfactory legislative, regulatory, and policy base to implement the Building Community Resilience through Transformative Actions Project.

## 6. Theory of Change

The theory of change for the project considers that there are five (5) main barriers to climate adaptation in Belize. These barriers include: 1) inadequate network of infrastructure to tackle climate threats such as water availability and fires; 2) limited financial resources to address adaptive needs of all communities and rural areas across Belize; 3) limited human resources and technical capacity to address climate change threats at the national level; 4) lack of national structures that enable successful implementation of climate adaptive measures; and 5) limited awareness at the national level about viable climate change impacts and converting measures.

The theory of change therefore proposes that if management and restoration strategies for watersheds are formulated, and fire management strategies are developed (including at the municipal level), infrastructure for fire management in vulnerable communities are built, and climate smart food production systems are successfully piloted, alongside the piloting of technical assistance programs with the institution of awareness raising and knowledge sharing programs coupled with improvements to infrastructure for drainage, Belize's long-term capacity to protect communities from climate threats posed by drought and unpredictable water availability, floods and improper wildfire management will improve.

**Figure 2: Theory of Change**



Furthermore, the theory suggests the formulation and implementation of local adaptation interventions in regions where the most vulnerable populations live and work. These will be made operational through the application of PACT's call for proposal process during which civil society organizations, municipal governments, community groups including women's organizations, village councils, local non-governmental organizations, and international organizations can apply for funding through the submission of proposals that clearly outline outputs that align with the project and AF outcomes. The ToC is not exhaustive nor prescriptive, however, applicant organizations and entities should demonstrate the existence of sound partnerships that deepen their provision of technical skills and knowledge transfer in the beneficiary communities.

The project goal contributes to six AF outcomes with corresponding project level outcomes that have multiple linkages. Specifically, the project contributes to the following AF outcomes:

- **Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental issues
- **AF Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
- **Outcome 4:** Increased adaptive capacity within relevant development sector services and infrastructure assets.
- **AF Outcome 5:** Increased ecosystem resilience in response to climate change and variability-induced stress
- **Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in the target area
- **Outcome 8:** Support the development and infusion of innovative adaptation practices, tools and technologies

Building on the consultative processes undertaken in the conduct of this study, PACT will expect funding applications that demonstrate that communities have a detailed understanding of their adaptation needs as well as the capacity to leverage additional resources in their areas of focus. PACT will apply its environmental and social management framework to assess funding applications. This review process will ensure that the adaptation measures proposed are feasible, locally owned and have built-in sustainability measures.

## **7. Analysis of vulnerability to climate change impacts**

There are persistent and emerging conditions that are contributing to climate vulnerability among certain populations. Increased flooding of residential areas has become a major environmental issue in Belize. In 2020, Hurricanes Eta and Iota caused unprecedented floods which have affected approximately 50,000-60,00 persons in Belize.<sup>28</sup> The full impact of hurricane Lisa, a category two hurricane which hit Belize in November 2022, demonstrated the vulnerability of households mostly in central Belize. The impacts of flooding and wind damage to utility services, subsistence agricultural production and housing was significant in this region. The unpredictability of rainfalls, flooding, droughts, and greater storm intensity have also made it increasingly difficult for farmers to manage cropping cycles.

The consistently high levels of poverty (52 per cent) in Belize will impede the ability of households and communities to build resilience to climate change. At the local level, climate change and variability will exacerbate deprivation and marginalization especially as there are some districts and population groups that tend to experience poverty at higher levels than others. This is made stark in the Toledo District,

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Southside Belize City, and communities in the BRW where rural, as well as urban, poor households may be impacted by weather events.<sup>29</sup>

The urban population has also grown generally, but even more specifically, there are more women living in urban areas than men. As the urban population grows, more people are living in unplanned, and under-serviced areas that are prone to flooding and destruction during climate and weather-related events. In such times, these populations will also lack access to sanitation and clean water. Those that are engaged in the informal sector are likely to be greatly affected during climatic events.

Furthermore, climate adaptive capacities have also diminished owing to the impact of the global pandemic. In Belize, this is reflected by the number of people who have since exited the workforce (SIB, LFS 2021). This forced exit, especially among women, could be attributed to the increased care burden on them and the already high levels of unemployment and underemployment that they already experience. Women and men exiting the workforce, will exacerbate the impact of climate change on communities, households and children. Notably, people who did not have jobs at the start of the pandemic, remained unemployed for at least a year. A focus on the improvement of livelihood options in the context of climate change, is especially needed in the aftermath of the Covid-19 pandemic.

The high cost of construction and building materials will further prevent many households from improving infrastructure and housing so they can better withstand stronger weather events. The rising cost of transportation, fuel and construction materials will impact already poor populations and households the most.<sup>30</sup> At the same time, national and local capacities to rapidly design and implement climate responsive interventions are challenged to respond with speed. Though knowledge of climate funds and resources exist, the technical and institutional skills-base are still limited to take full advantage of global and regional resources that countries like Belize can access.<sup>31</sup>

## 7.1 Perception, dynamics, and community logic of climate change in relation to the project

The results of the rapid participatory survey of the stakeholders allowed the relevant stakeholders (leaders of CSOs, NGOs, NAVCO, DAVCO, etc.) to provide their perspectives and feedback on the responsiveness of each of the 5 components in the study.

For Component 1, which focuses on *Safeguarding forest and water resources through strategic protection and restoration solutions*, most of the participants in the survey indicated they were aware that waterbodies within or near their communities are not in good condition. They attributed the current state of these water bodies to high levels of garbage pollution, and fecal contamination (**Figure 3**). Survey respondents also indicated that the agriculture frontier has reached freshwater sources, and farmers are not respecting the buffer zone. Land clearing activities near these water sources will lead to contamination. Other respondents

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<sup>29</sup> Poverty data Belize- 52% (SIB, 2019). See <http://sib.org.bz/wp-content/uploads/PovertyStudy2018.pdf>. Accessed September 2022.

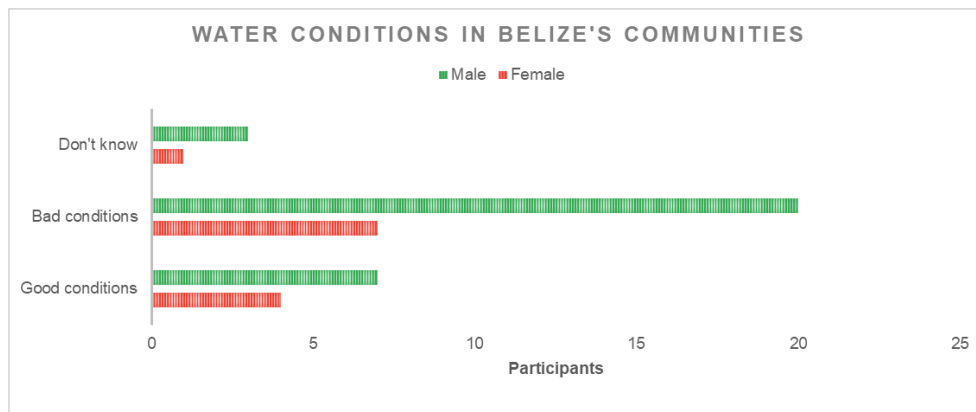
<sup>30</sup> Consumer Price Index September 2022- 112.0 as compared to September 2021-104.6 meaning that overall inflation rate at 7.1% of the cost of goods and services (SIB, 2022)

<sup>31</sup> Stakeholder Survey responses to climate change capacity in Belize, CADS, 2022.



highlighted that slash and burn activities occurring close to water bodies were causing soil erosion, receding water levels and in some cases, drying of the water bodies.

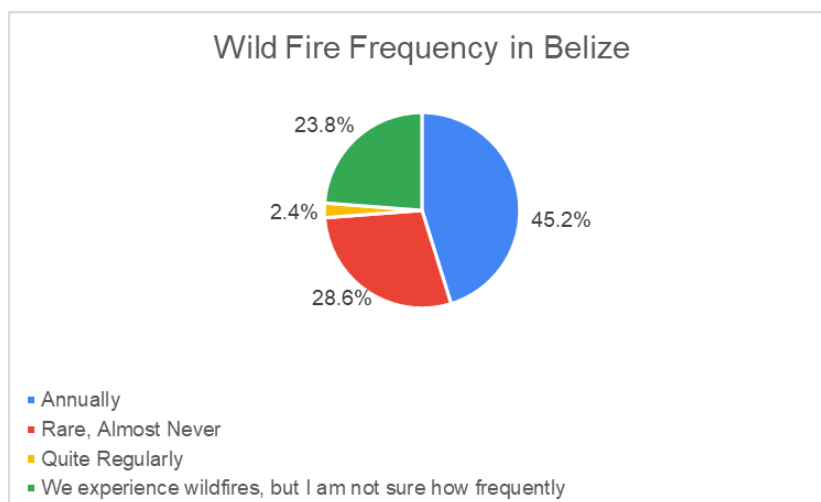
**Figure 3.** Participants' Perception of Water Conditions in their Communities



The responses from stakeholders additionally indicated that women generally assess the conditions of the water bodies in and around their communities based on what is immediately visible to them (such as colour of water, presence of garbage, etc.). Men on the other hand base their perception of water quality on the known activities that occur around the water source. For example, men judge the water quality in relation to agriculture activities conducted nearby, farmers’ activities, and extractive activities such as mining and damming.

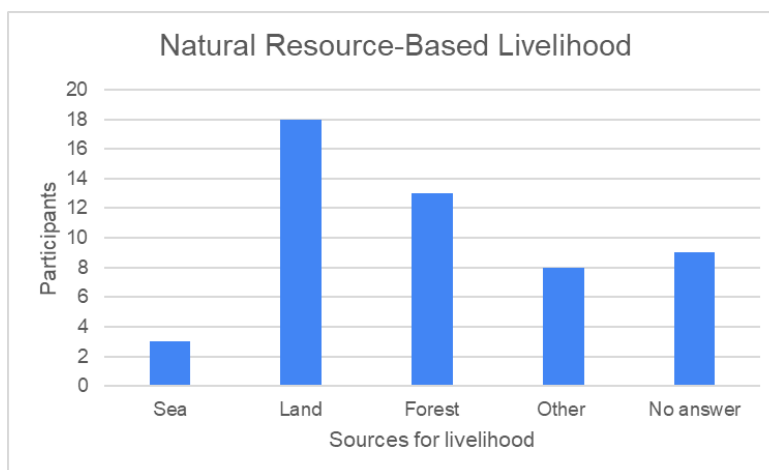
In the case of Component 2, *Combating wildfires through adaptive management*, forty-five percent (45 per cent) of stakeholders expressed that they experienced wildfires annually. These encounters occurred mostly in the Cayo, Stann Creek, Toledo and Orange Walk Districts (**Figure 4**). Stakeholders also indicated that the top three effects of climate change related issues that they were experiencing were: increases in temperature, floods and rainfall.

**Figure 4.** Wildfire Frequency in Communities



In terms of Component 3, *Creating opportunities to support alternative livelihoods*, most of the employed stakeholder respondents depend on land and forest as a source of income and a small number stated that they depended on the sea for their livelihood (**Figure 5**).

**Figure 5:** Natural Resource-based Livelihoods



For Component 4, *Building National Capacity to Access Climate Financing*, there is significant knowledge among stakeholders about climate financing. Most of the participants (71.42 per cent) were familiar with climate change and they were also familiar with its effect. They also categorized both climate change mitigation and adaptation as very high priority in Belize (**Table 3**).

**Table 3.** Stakeholders' Response to Familiarity with Climate Change and Its Effect

Priority	Climate Change Mitigation	Climate Change Adaptation
Very high	71.42%	71.42%
High	14.28%	14.28%
Moderate	14.28%	14.28%

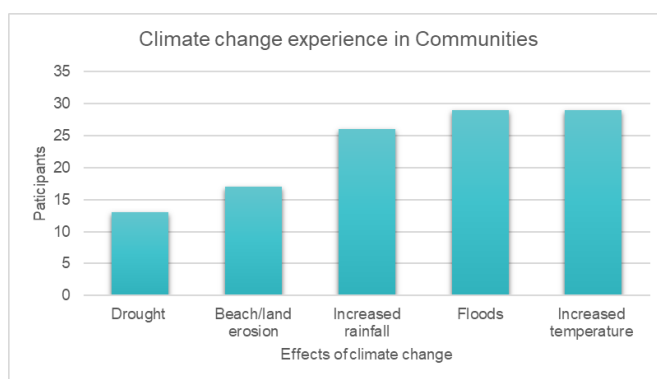
Stakeholder respondents, in the public service sector (95 per cent), were aware of the main causes of climate change and they categorized both climate change mitigation and adaptation to be of high priority. They defined climate finance as financial resources available for assisting countries to prepare, manage and adapt to the impact of climate change for which the country is vulnerable to, so as to build resilience against climate change. All participants from the public sector were aware of and knew the local and national institutions responsible for planning and implementing climate change adaptation programming.

The stakeholders further indicated that they are aware that the sectors mentioned above need funding. In consultations however, they shared that overall, institutional capacities and technical skills to access climate financing were limited. They offered that insufficient knowledge on how to frame climate change derived

problems and to articulate these in the manner required by the international funding entities, limit resource mobilization. Stakeholders noted that this resource mobilization was further impeded by insufficient human resources, inadequate technical capacities to design and write viable proposals, and sparse, official data disaggregated at the local level.

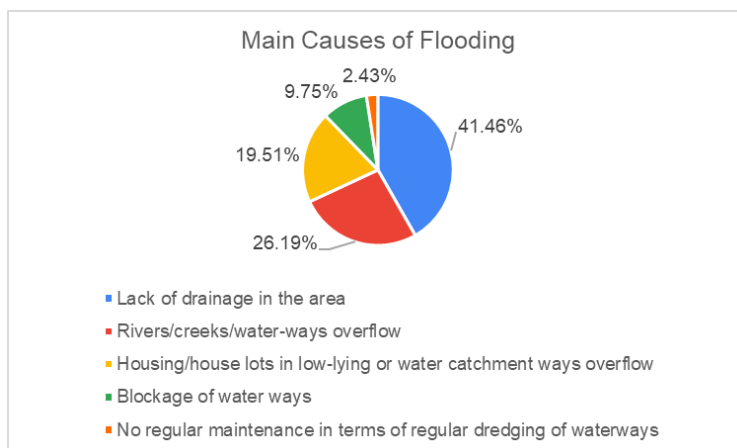
For Component 5, *Disaster risk management*, stakeholders expressed that they were experiencing the effects of climate change in their communities, such as increases in temperature, floods, and rainfall. They explained that the flooding in their communities usually occurs during a storm/tropical depression/hurricane season. Other participants suggested that they experienced flooding only during the rainy season, while others expressed that they experienced flooding whenever it rained. This could mean that those who experience flooding whenever it rains are those who live in extremely low lying or swampy areas (**Figure 6**).

**Figure 6.** Climate Change Experiences in Communities



According to stakeholders, floods tend to recede almost immediately in some areas, while in other areas, high waters can last up to a week. In consultations, participants voiced that they believed that the main causes of flooding were due to the lack of drainage in the areas (41.5 per cent), rise in rivers/creeks/waterways overflow (26.8 per cent) and the location of housing/house lots in low-lying or in water catchment areas (**Figure 7**).

**Figure 7.** Main Causes of Flooding



## 8. Assessment of the feasibility of the project components

The feasibility study found that the five project components are responsive to the expressed needs of stakeholders. When implemented, each of these components will reduce the vulnerability of communities, households and populations who face both exclusion and marginalization, which can be exacerbated by climate change. At the same time, all components will strengthen climate resilience in the most vulnerable communities through interventions that align with the outcomes of the AF and the climate adaptation strategies of Belize. Each component is summarily assessed to arrive at potential environmental, economic, and social impacts after intervention. An indicative capital and operational expenditure, exit options, and capacity for gender mainstreaming are also part of this assessment.

### 8.1. Component one: Safeguarding forest and water resources through strategic protection

Stakeholders are aware that the water bodies within or surrounding their communities are not in good conditions. They noted that this is due to high levels of garbage pollution, mercury fecal, and pesticide contamination. They also attribute the low quality of potable water to the lack of water testing and inadequately functioning water pumps.

Some specific strategies that can contribute towards the improvement of water quality in the Belize River Watershed and in adjacent and buffering communities include actions that: protect water reserves such as underground aquifers, rivers and lakes; educate the surrounding populations on the efficient use of water; facilitate the adoption of environmentally friendly production technologies to reduce contamination of water bodies; fund the installation of adequate infrastructure for water storage; strengthen information systems to monitor water use and quality; support ways to protect, recover and improve the environment in coastal areas and maritime areas; and re-establish riparian forest in the Belize River Watershed.

At the community level, these actions can be implemented with youth organizations who could be mobilized to promote awareness on water quality issues in the affected communities. Technical application of this component will also include restorative interventions to improve and maintain forest cover in the watersheds. Additionally, this component will provide technical expertise to monitor and test for water quality so that the data can be used for the formulation of evidence-based community and state level actions that will directly improve the quality of water in the BRW generally and in the Mopan and Macal Rivers, specifically.

**Table 4:** Feasibility Assessment Component 1: Safeguarding Forest and Water Resources Through Strategic Protection

<b>Comp. One</b>	Safeguarding forest and water resources through strategic protection
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Expected Concrete Outputs	Assessments			Description of Capital and Operating Expenditure	Exit Strategy & Sustainability	Capacity for Gender Mainstreaming
	Environmental	Economic	Social			
1.1. Forest restoration strategies for the Belize River Watershed developed	<ul style="list-style-type: none"> <li>-Opportunity for soil restoration and reduction in riverbank erosion</li> <li>Reduction in sedimentation in aquatic basin</li> <li>- Increase in forest cover to control for increased temperature</li> <li>Replenishment of biodiversity and non-timber forest products</li> <li>- Ecosystem services restoration and maintenance</li> <li>- Contributes to water recharge and regulation in aquifers</li> </ul>	<ul style="list-style-type: none"> <li>- Increase access to non-timber forest products</li> <li>- Increase in environmental goods for household and sustainable, nature-based businesses</li> <li>- Increase agricultural yields through soil restoration</li> <li>- Improve livelihood options e.g. eco-tourism</li> </ul>	<ul style="list-style-type: none"> <li>-Improved air quality</li> <li>-Improved access to food, medicinal, and cultural products and activities</li> <li>-Improved access to sustainable harvesting of wood (fuel) for household use</li> </ul>	<p><i>Consultancies:</i></p> <ul style="list-style-type: none"> <li>Watershed Strategy Development</li> <li>-Community Awareness, Education and Outreach</li> <li>-Community-based Technical Training for Watershed Restoration</li> <li>-Design and Implementation of Riparian Forest Restoration Program</li> <li>-Community consultations</li> <li>-Equipment, material inputs and extension services</li> <li>-Transportation</li> <li>-Communication</li> </ul>	<ul style="list-style-type: none"> <li>-Institutional strengthening of local, NGOs and CSOs organization</li> </ul>	<p>Women and men will access training opportunities to contribute to build knowledge and practices on the restoration of forest resources.</p> <p>Increased access, especially for women to non-timber forest products used in the home.</p> <p>Reduced burden of care among women and girls for family and household members affected by water-borne diseases</p>
1.2. Pilot water quality restoration activities in watershed	<ul style="list-style-type: none"> <li>-Increased water quantity</li> <li>-Improved aquatic cycle &amp; biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>-Increase production yield in agriculture</li> <li>-Improve livelihood from aquatic resources</li> <li>-Increase natural value of water for recreational</li> </ul>	<ul style="list-style-type: none"> <li>-Reduced burden of water collection especially on women and children</li> <li>-Improve health and quality of life</li> <li>-Maintenance of community traditional and</li> </ul>	<p><i>Consultancies:</i></p> <ul style="list-style-type: none"> <li>-Water Quality Restoration Strategy</li> <li>-Consultation</li> <li>-Field and Extension Officers</li> <li>-Water quality testing inputs</li> </ul>	<ul style="list-style-type: none"> <li>-Technology transfer</li> <li>-Institutional mechanisms for local ownership and partnership arrangements among community groups and organizations</li> </ul>	<p>Women and men have access to data and information to improve decision-making on water use and management</p>

		and social activities, e.g., eco-tourism  Improved time use at the household level	cultural fresh-water-related activities	-Technical training and capacity building using evidence-based approaches  -Local level knowledge and practice exchanges and field visits	Strengthened capacity	
Economic and Financial Viability	Increase in production yields, crop diversification, year-round harvests, forest, and water-based income generating activities, household economic resilience, and access to technical Climate- Smart Farmers and farming practices to support nature-based business opportunities.					

## 8.2. Component two: Combating wildfires through adaptive management

The frequency and magnitude of wildfires in some communities are a cause for concern among stakeholders. The wind damage from hurricane Lisa (November 2022) and storms in general, have deposited significant fuel loads in communities. In some communities, especially those in central Belize, both men and women have worked together to respond to fires to reduce destruction to household items and property. In instances where the fires are naturally occurring, this component will consider supporting community mobilization efforts, including local fire brigades who can assist in the containment and prevention of wildfires at short notice. This support would be facilitated through the provision of physical infrastructure to ensure a ready supply of water in affected communities. Additionally, institutional support and technical assistance to develop wildfire policy and strategy will also be considered as core actions in this component.

While weather conditions including droughts, and longer dry seasons have contributed to an increase in wildfires, there are also instances of wildfires used to facilitate hunting and slash and burn milpa farming. Sub-project considerations under this component can also assist in community training, and education and outreach through direct support to at least three (3) pilot communities. The teams in these communities would be guided by the national policies, protocols and regulations governing wildfire prevention and management. The updating and strengthening of these policies and regulatory frameworks can be considered in this component.

In communities where women do not traditionally contribute to fire prevention, response and management activities, the project can support their inclusion in education campaigns, management of emergency centers), training and advocacy strategies.

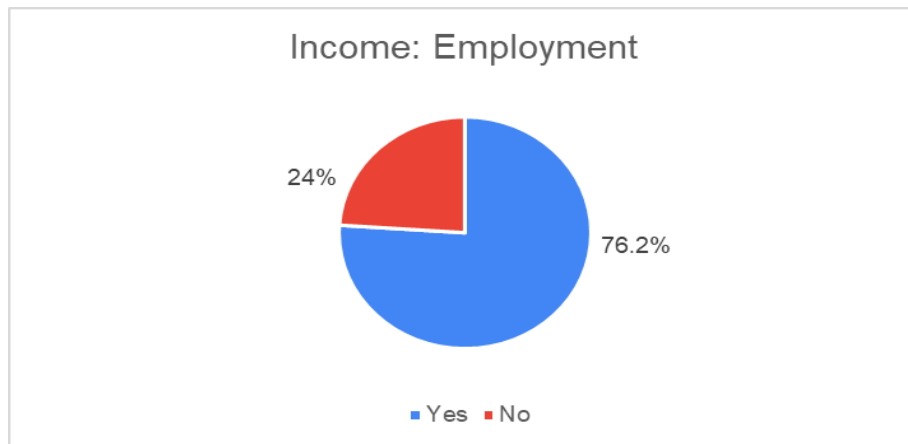
**Table 5:** Feasibility Assessment Component 2: Combating Wildfires Through Adaptive Management

<b>Project Component Two</b>	Combating wildfires through adaptive management					
<b>Expected Concrete Outputs</b>	<b>Assessment</b>			<b>Description Capital and Operating Expenditure</b>	<b>Exit Strategy and Sustainability</b>	<b>Capacity for Gender Mainstreaming</b>
	<b>Environmental</b>	<b>Economic</b>	<b>Social</b>			
2.1. Pilot community fire brigades in three vulnerable communities	<ul style="list-style-type: none"> <li>-Reduced biodiversity loss</li> <li>-Reduced landscape loss</li> <li>-Reduced soil erosion</li> <li>-Improvement in soil porosity</li> </ul>	<ul style="list-style-type: none"> <li>-Reduce loss in crop production</li> <li>-Reduce loss in property</li> <li>-Reduce threat to livestock</li> <li>-Secure forest by product (non-timber product)</li> </ul>	<ul style="list-style-type: none"> <li>-Avoid disruption in traffic and travel</li> <li>-Reduced risk of death and loss of life</li> <li>-Reduced risk of road traffic accidents</li> <li>-Reduction in wildfire related trauma and stress in affected vulnerable household</li> </ul>	Consultancies:  <ul style="list-style-type: none"> <li>-Update of Wildland Fire Management Policy and Strategy</li> <li>-Fire communication and Outreach strategy</li> </ul>		Safety of women and girls increased  Roles for women and girls in fire prevention and management identified and supported in the community
2.2. Construction of elevated water storage tanks	<ul style="list-style-type: none"> <li>-Reduced loss in soil biodiversity</li> <li>-Improved air quality</li> </ul>		<ul style="list-style-type: none"> <li>-Reduced strain on water sources</li> </ul>	<ul style="list-style-type: none"> <li>-Fire Prevention and Management Training facilitators</li> </ul>		
2.3. Build national capacity to implement a wildfire management strategy	<ul style="list-style-type: none"> <li>-Sustained maintenance of ecosystems</li> <li>-Reduce strain on local water potable water resources</li> </ul>		<ul style="list-style-type: none"> <li>-Reduced exposure to respiratory hazards</li> <li>-Reduced overhead cost to public expenditure</li> </ul>	<ul style="list-style-type: none"> <li>-Local travel costs</li> <li>-Community consultations</li> <li>-Fire response equipment</li> </ul>		
2.4. Updated Wildland fire management policy				Contracts:  Water tank construction Infrastructure  <ul style="list-style-type: none"> <li>-GPS equipment</li> </ul>		
Economic and Financial Viability	Improved community response capacity and losses in crops, property and water resource supply. Direct contribution to mental health and harmony in the communities. Improved technical and employment skills and capacities among youth.					

### 8.3. Component three: Creating opportunities to support alternative livelihoods

Seventy-six per cent of stakeholders said that they were employed while 23.8 per cent said they were unemployed (**Figure 8**).

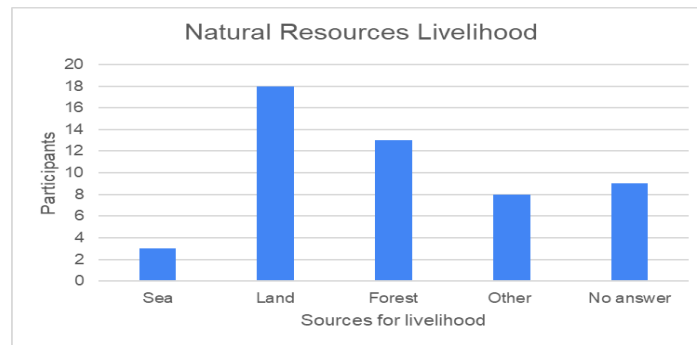
**Figure 8.** Income - employment



Most of the employed stakeholder respondents depend on land and forest as a source of income; a small number stated that they depend on the sea for their livelihood (**Figure 9**). Others stated that they worked in the tourism and construction industries.



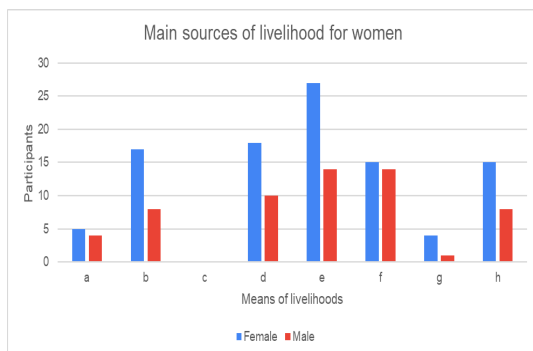
**Figure 9- Sources of Livelihood**



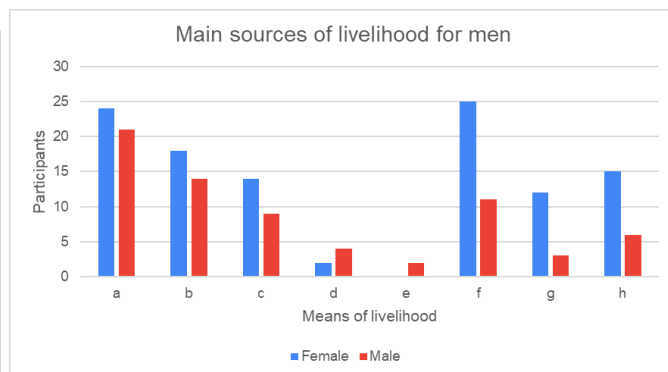
Feedback from stakeholders to the feasibility survey highlighted that men and women work and earn a living in gender spaces.<sup>32</sup> For instance, many more women than men work in the tourism sector, but they are also highly represented in the public sector, where they have jobs in health, education, and public service (**see Figure 10**). While public sector jobs may offer a stable income, these workers are also not immune or protected from the impact of inflation and the high cost of living.

The stakeholders also confirmed that men are more likely to be employed than women, and that they tend to have jobs in sectors with high dependence on natural resources such as agriculture, tourism and fisheries (**see Figure 11**). Jobs in the tourism and primary sectors can be vulnerable to shocks caused by climate variability and change.

**Figure 10: Main Sources of Livelihood for Women**



**Figure 11: Main Source of Livelihood for Men**



Component three will focus on nature-based and transformative food production that have the potential to grow into sustainable generating enterprises. In line with the feedback from stakeholders, especially women, the livelihood and income generation component will consider interventions that support small-

<sup>32</sup> The employment sectors referenced for both men and women and women are the following: a. agriculture, b. tourism, c. fisheries, d. health, e. education, f. business, g. firms, h. public service.

scale community-wide production that require support with technical assistance, marketing and supply chain management and extension services. With this support, stakeholders believe that they can scale production and outputs. Communities will not be expected to start new ventures, in fact, some experience with production as well as demonstrable market demand will help to advance income generation and livelihood sustainability. Requests for technical training for crop production, value added, and business growth and management will be supported by this component. A focus on in-community production will also be considered as women stressed the preference to earn incomes generated in their own communities. This will reduce the burden with the cost of having a job since reduced income will bear on their ability to recover from weather and climate events. Healthy water resources and waste management were also identified as livelihood related and these capacities can be important considerations for entrepreneurship success.

**Table 6:** Feasibility Assessment Component 3: Creating Opportunities to Support Alternative Livelihoods

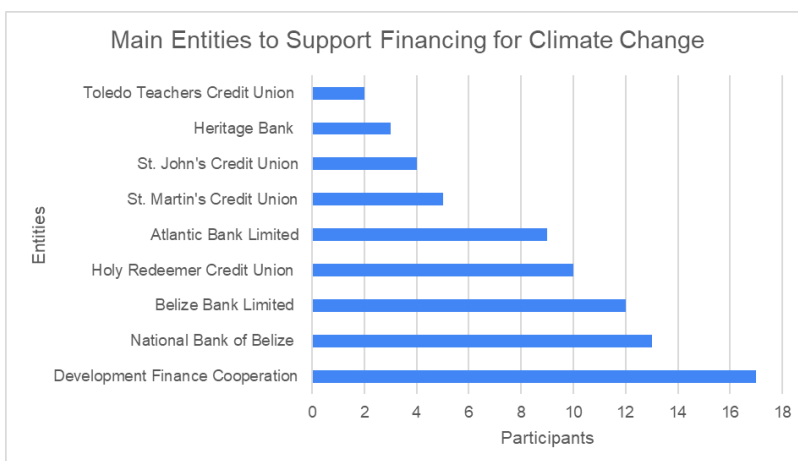
<b>Project Component Three</b>	Creating opportunities to support alternative livelihoods					
<b>Expected Concrete Outputs</b>	<b>Assessment</b>			<b>Description Capital and Operating Expenditure</b>	<b>Exit Strategy and Sustainability</b>	<b>Capacity for Gender Mainstreaming</b>
	<b>Environmental</b>	<b>Economic</b>	<b>Social</b>			
3.1. Demonstration plots for transformative food productions systems	<ul style="list-style-type: none"> <li>-Climate- Smart Agriculture</li> <li>-Improvement of soil nutrition cycle</li> <li>- Sustainable food production</li> </ul>	<ul style="list-style-type: none"> <li>-Innovation in food distribution and supply chain</li> <li>-Innovation in food option and variety</li> </ul>	<ul style="list-style-type: none"> <li>-Improvement of public health</li> <li>-Introduction new/non-traditional foods</li> </ul>	<ul style="list-style-type: none"> <li>-Providing training and coaching in building regenerative agricultural systems (that build soils and protect biodiversity) with gender sensitivity and consideration</li> </ul>	<ul style="list-style-type: none"> <li>-Micro and small businesses establish in the participating communities</li> <li>-Improved climate smart agriculture competencies among micro entrepreneurs and agri-business</li> </ul>	<ul style="list-style-type: none"> <li>Women will have direct access to income generating opportunities</li> </ul>
3.2. Identify and promote nature-based business opportunities	<ul style="list-style-type: none"> <li>-Strengthen the food system</li> <li>-Reduce air, soil and water pollution</li> <li>- Landscape management choices impact ecosystem services and landscape sustainability</li> </ul>	<ul style="list-style-type: none"> <li>-Reduction in household poverty especially at the rural level</li> <li>-Increase opportunities for women to work outside of the home</li> <li>-Contribute to financial independence</li> </ul>	<ul style="list-style-type: none"> <li>-Reduction in employment discrimination based on sex</li> <li>-Reduction in insecurity and marginalization</li> <li>-Reduction in gender-based violence</li> </ul>		<ul style="list-style-type: none"> <li>-Regenerative agriculture as market creation</li> <li>-Enhanced supply chain systems</li> </ul>	<ul style="list-style-type: none"> <li>Women will have increased access to technical skills and capacities sustain their households.</li> </ul>
3.3. Provide training and business coaching skills for the establishment of functional small		<ul style="list-style-type: none"> <li>-Contribute to financial independence</li> <li>-Increase national productivity</li> </ul>	<ul style="list-style-type: none"> <li>-Improvement in nutritional and calorie intake</li> <li>-Improved longevity and</li> </ul>		<ul style="list-style-type: none"> <li>-Increase household revenues and incomes streams</li> </ul>	<ul style="list-style-type: none"> <li>Women and men will improve the response options to climate and weather-related events that affect their communities.</li> <li>Women and men will increase their sustainable use of</li> </ul>

<p>3.4. Increase awareness and conduct training in food production system and nature-based alternative livelihoods</p>		<p>-Creation of different economic markets and opportunities to scale.</p> <p>-Regenerative agriculture to improve food production system</p>	<p>health among children and adults</p>			<p>resources already present in their communities to generate incomes and security for their families.</p>
<p>3.5. Conduct market assessments</p>		<p>-Opportunities to establish sustainable landscape-based businesses</p>				
<p>Economic and Financial Viability</p>	<p>Enhanced household food security and sustainable livelihoods options in terms of climate adaptation, increase capacity for incomes generation, active participation in new markets, improve employment and income generation for women, non-discrimination in employment, improve economic empowerment especially among women, financial and income security, increase opportunity for innovation in the agriculture and food security, reduction multidimensional poverty in children and their household, increase health among , women, children, men youth and the elderly.</p>					

**8.4. Component four: Building national capacity to access adaptation finance**

This component on capacity building is to strengthen resource mobilization capacity for climate financing. Stakeholders identified that entities like the Development Finance Corporation, the National Bank of Belize, Belize Bank Limited, and credit unions needed to support financing for climate change (Figure 12). They also mentioned that other entities like PACT, the Ministry of Sustainable Development Climate Change and Disaster Risk Management, Ministry of Rural Development and Local Government, Social Security Board, and credit unions are key in the process of resource mobilization for climate change. Stakeholders also identified some community-based local entities and organizations - the National Association of Village Councils, water boards, women's groups and producers' organizations - that should be strengthened to access climate financing to improve the coping capacities in communities.

**Figure 12.** Main Entities that can Support Climate Change Financing



Additionally, some entities with project design experience and capacities were also identified and this include, National Hydrological Service, Ministry of Natural Resources, Ministry of Economic Development, Belize Association of Planners, Ministry of Immigration and National Biodiversity Office, Inter-American Institute for Cooperation on Agriculture and Ministry of Sustainable Development, Climate Change and Disaster Risk Management.

Stakeholders unanimously agreed that climate finance is an essential aspect of the national framework and strategies to meet the Sustainable Development Goals and other international commitments. However, they were generally unaware of financial climate education/training that targets the actors involved in climate financing projects. Stakeholders, (71.42 per cent) were aware of manuals, and directives to guide climate change actions from the GoB, and the private sector in the country. However, they were unaware of plans to manage national financial resources based on the priorities established in the national climate change strategy and action plan.

**Table 7:** Feasibility Assessment Component 4: Building National Capacity to Access Adaptation Finance

<b>Project Component Four</b>	Building national capacity to access adaptation finance					
<b>Expected Concrete Output</b>	<b>Assessments</b>			<b>Description Capital and Operating Expenditure</b>	<b>Exit Strategy and Sustainability</b>	<b>Capacity for Gender Mainstreaming</b>
	<b>Environmental</b>	<b>Economic</b>	<b>Social</b>			

<p>4.1. Establish a Technical Assistance Program to strengthen CSO capacity for project development and implementation</p>	<p>-Increase capacity for sound environmental analysis and protection efforts</p> <p>-Increase awareness of environmental protection</p> <p>-Improved capacity to implement national climate strategy and action plan</p>	<p>-Reduce loss of life, property</p> <p>-Reduce disruption owing to climatic events</p> <p>-Increase in climate responsive planning, procurement, and project implementation</p> <p>-Improve technical capacity to develop policies and implement decisions for climate and environmentally-friendly production</p>	<p>Improve capacity to identify and plan for climate hazards</p> <p>- Strengthen climate response policy formulation and implementation</p>	<p>-Technical training</p> <p>-south-south exchange</p> <p>-Expert fees</p> <p>-Scholarships</p> <p>-Equipment</p> <p>-Technology: software</p> <p>- Field transportation</p> <p>-Research and conferences</p>	<p>-Staff retention</p> <p>-Climate Finance Officers</p> <p>-Regional and international partnership mechanisms</p> <p>-Multi-sectoral coordination and strengthening</p> <p>-Knowledge sharing and communities of practice</p> <p>-Communication</p>	<p>As women are increasingly present in the public sector, they will benefit from technical training and climate change skills provision for policy design and implementation.</p>
<p>4.2. Develop and pilot an awareness raising and knowledge sharing program</p>						
<p>4.3 Build capacity on the utilization of earth observation data to monitor adaptation finance impact at the local level</p>						
<p><b>Economic and Financial Viability</b></p>	<p>Technical capacity, climate finance expertise which will facilitate climate responsiveness planning, resilience and innovation nationally.</p>					

## 8.5 Component five: Community disaster risk management

In order to reduce the effects of climate change, participants believed that planning and budgeting methodologies for climate actions (green economy and circular economy), implementing forestry and agroforestry practices, using sustainable infrastructure, using alternative sustainable production, implementing strategies such as payment for ecosystem services, carbon credits/stocks; and adopting the use of alternative energy would advance climate adaptation. These actions would also reduce climate vulnerability at the community level.

Stakeholders voiced the need to respect the rights of indigenous communities, afro-descendants and vulnerable populations. They also expect that the project will advance efforts towards gender equality and equity and non-discrimination in accessing funds and resources for climate adaptation.

Specific actions to avert disasters that could be brought on by climate events is mostly related to addressing drainage in under-served areas. This can be done with support from the project to: clean drains and waterways, improve drainage infrastructure, build higher and better reinforced bridges, plant trees, construct flood walls, elevate roadways and protect catchment lagoons.

**Table 8:** Feasibility Assessment Component 5: Community Disaster Risk Management

Project Component Five	Community disaster risk management					
	Assessment			Description Capital and Operating Expenditure	Exit Strategy and Sustainability	Capacity for Gender Mainstreaming
	Environmental	Economic	Social			
5.1. Assess drainage issues following local hydrological flooding events	-Reduction in flood and still waters in communities  -Reduction in vectors and pest brought on by floods and still waters	-Reduced disruption in travel and work  -Reduced disruption in the conduct of business transactions  -Reduced loss in crop production and harvest	-Reduction in vector borne diseases  -Reduction in property loss and household damage  -Reduction in traffic accident  -Reduction in risk taking activities	Consultancies -Design and planning of drains and drainage systems  -Engineering services  -Construction services - Environmental Impact assessment and studies -Construction material and supply  -Consultation resources  -Communication  -Maintenance of infrastructure  -Training on disaster risk management	-Integration of infrastructure management in local emergency management organization (VEMO & DEMO)  - Institutionalization of disaster risk management planning  -Equipment  -Maintenance Kits	Drains and drainage design and implementation can take women's needs and priorities into account.  The burden of flood preparation and response that women carry will be reduced.  Communication on flood mitigation and response will include women's inputs.
5.2. Construct drainage system in areas prone to flooding	-Reduce soil erosion	-Increase in flood insurance				

<b>Economic and Financial Viability</b>	timesaving for transportation, maintains supply and quality of goods and services, enhances household and community productivity, saves lives, promotes mental health and well-being.
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## 9. Monitoring and evaluation

Since the specific sub-projects are not yet developed, the M&E mechanism for the project will follow the PACT’s M&E Framework which is complete with objectives, indicators and targets, methods, data sources, frequency of measure and assigned responsibilities, as applicable. The frequencies of measure can be determined based on the time required for a measurable difference in the indicators to be observed and the usefulness of the measure, human resources necessary and costs based on the sub-project activities. Responsibilities can be distributed among implementing agencies, partners while expertise can be outsourced. However, a strategic action plan for M&E and a clear baseline for indicators needs to be determined along with the adequate M&E form and tools that are to be used for each project under each component (PACT, 2018).

## 10. Risks to implementation of project components

The five components of the projects are responsive to climate adaptation, especially at the community level. Responses to the feasibility survey and the feedback received during consultations indicate that the components sufficiently provide for several sub-project activities and actions to reduce vulnerability to climate among certain population groups in some areas of the country. In the table below (**Table 9**), these are captured in the strengths and opportunities quadrants. There are, however, some risks inherent to, and emergent in this project and these are reflected in the weaknesses and threats quadrants. These risks can be alleviated through the governance and implementation structure of the project.

**Table 9.** SWOT Analysis

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>● Responsive to main areas of climate vulnerability experienced by communities</li> <li>● Stakeholders indicate that they are willing to support/lead with sub-project implementation</li> <li>● Previous experience with PACT modality for project on- granting</li> <li>● Project aligns with regulatory and institutional frameworks for climate change in Belize</li> <li>● Multiple implementing agencies can access funds and partner with PACT</li> <li>● Capacity to improve gender equity and women’s empowerment especially for climate resilience</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>● Limited experience among some potential implementing partners to design and implement projects for climate resilience</li> <li>● Demand and scope of project can outweigh earmarked resources, potentially for Component 2 and Component 4</li> <li>● Partnership building between communities and technical experts can result in implementation delays</li> <li>● Sub-projects activities likely to require satisfactory level of prior technical skills and experience which may take time to secure in communities, village councils, NGOs and CSOs</li> <li>● Capacity to comply with the national building codes and other regulations may add to the delivery timelines for some project activities</li> <li>● Extended timelines for approval of applications</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>● Option to build on or expand existing interventions under implementation</li> <li>● Capacity to expand skills and expertise for climate resource mobilization and utilization</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>● Extreme weather conditions</li> <li>● Rise in cost of materials and labour due to inflation</li> <li>● Labour shortage</li> </ul>



<ul style="list-style-type: none"> <li>• Capacity to grow knowledge and good practice exchange spaces especially in Component 2 and Component 3)</li> <li>• Capacity to enable greater inclusion and participation of women in climate change interventions, especially for adaptation</li> <li>• Capacity to improve socioeconomic standards, especially employment generation, rural production and new markets</li> </ul>	<ul style="list-style-type: none"> <li>• Low application and submission during call for proposals</li> <li>• Limited project implementation capacities</li> <li>• Lack of affordable technical expertise and skills in sub-project area</li> <li>• Community disaffection with project activity</li> </ul>
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## 11. Project Governance

The project will be implemented by PACT through its on-granting mechanism. In order to access these funds, potential implementing organizations will need to respond to the call for proposals executed by PACT and engage in the process for the possible award of funding for a sub-project. This process is depicted below in **Figure 13**.

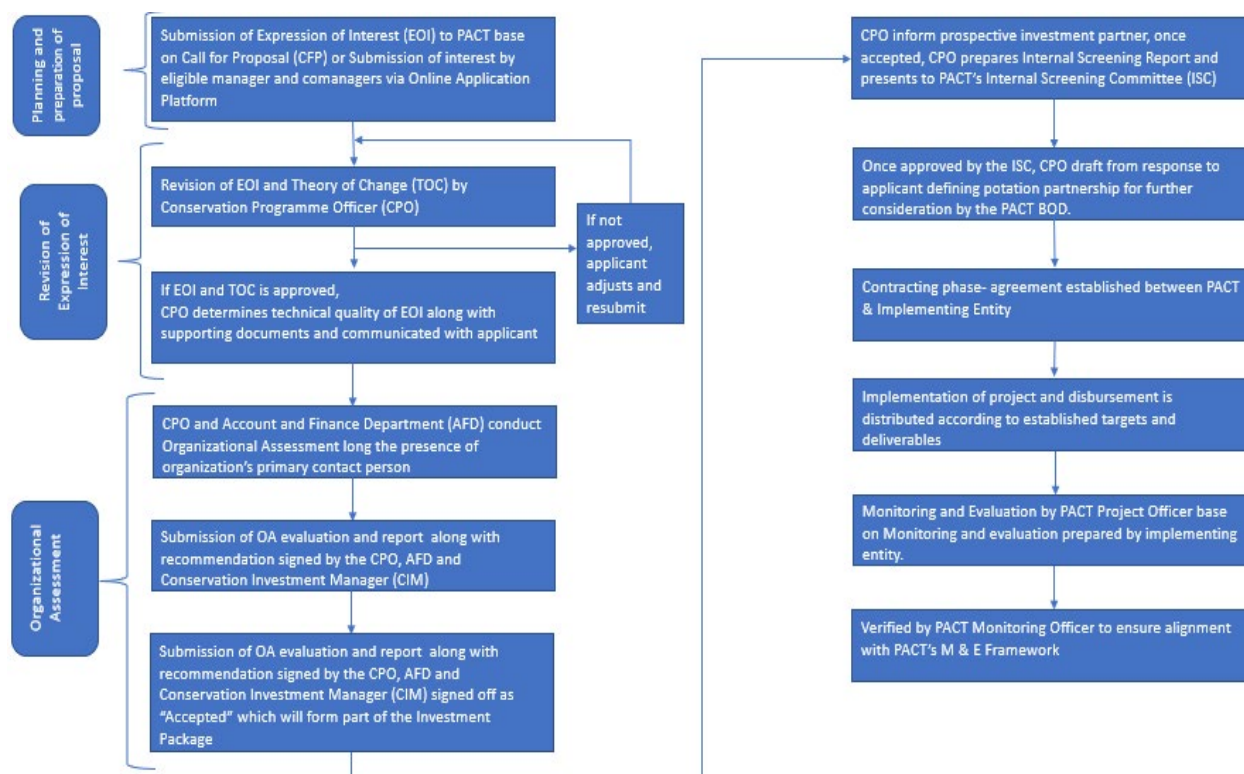
Along with clear linkages to the outcomes expected by the AF, the target investments must also advance PACT's Conservation Investment Strategy. The applicant must therefore, meet the following criteria to be eligible for Targeted Investments<sup>33</sup>.

- a) Core operational costs required for the effective management of legally established Protected Areas.
- b) Biodiversity and Ecosystem Protection enabling improved Ecosystem Health.
- c) Financial Sustainability/ Revenue Generation for the BNPAS guiding the improved financial sustainability of the system.
- d) Development and/or expansion of socio-economic benefits from the BNPAS to support community development and local economy.
- e) Activities/initiatives that create enabling conditions, inclusive of staff training and capacity building, for the achievement of desired outcomes.

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<sup>33</sup> Ibid

**Figure 13: PACT Project Sub-Project Application and Approval Process**



**Source:** Developed based on consultation with PACT (2022)

PACT has developed and adopted various institutional level policies and guiding documents to <sup>34</sup> meet its mandate. These policies and guides constitute the organization’s governance structure.<sup>35</sup> This approach enables PACT to evolve from being principally a grant-driven Trust to an investment-driven one. With such a mandate, PACT can actively seek a return on its investment in the Belize National Protected Areas System.

<sup>34</sup> PACT Environmental and Social Management Framework and Associated Policies

- PACT Monitoring and Evaluation Framework
- PACT Procurement Policies and Procedures Manual
- PACT Accounting Manual
- PACT Anti-Fraud Policy and Procedures
- PACT Conservation Investment Strategy
- PACT Anti-Monetary Laundering Policy

<sup>35</sup> Consultation with PACT’s project officer- Accessed November 2022

## PART II FEASIBILITY

### POLICY AND LEGISLATION

The feasibility study indicates that Belize has a sufficient legal and policy base for the implementation of this project. Several key strategies and plans have been developed in recent years in response to the need for sound national frameworks to respond to climate change and variations. The general targets of the national climate strategy are to enhance climate-compatible sustainable development, the country's capacities in implementing adaptation measures and to reduce greenhouse gas emissions to secure human safety and property and sustainable development. It also aims to strengthen people's and natural systems' adaptability to climate change while developing a low-carbon economy to protect and improve the quality of life, and guarantee national security and sustainable development in the context of global climate change. The national climate strategy will proactively work with the international community in protecting the earth's climate system. The table below provides for a summary analysis of the major climate change policies and plans and their linkages to the components of the project.

*Table 38: Policy Analysis*

Project Outcomes	Policy / Plan	Description
<b>Component 1. Safeguarding forest and water resources through strategic protection and restoration solutions</b>		
Water quality improved for watershed in country Increased understanding of climate change impacts visible in communities	National Integrated Water Resources Management Policy for Belize	This policy focuses on guiding the management of Belize's water resources. The principles of the policy include that: 1. Water is finite and is a vulnerable natural resource, essential to sustain life, the environment, the economy and national development; 2. Water, as a national resource, belongs to the people of Belize, now and forever; 3. Water is vested in the state that is the guardian and guarantor of water rights; 4. The state governs, manages and promotes rational use of the water resources for the benefit of the Belizean people at all times; 5. Access to safe and affordable water is a fundamental right of all Belizeans and the water availability is directly correlated to level of health and poverty; 6. Watersheds and their surface and subterranean linkages to the marine environment are the basic functional units for achieving integrated water resources management; 7. Water has an economic value and the "user pays" principle is integral in ensuring the sustainability of the resource; 8. Water has equity value and water rights are allocated by the state and are tradable; and 9 Global climate change, climate variability and land use will have impacts on the availability and use of water resources.
	National Biodiversity Strategy and Action Plan	The National Biodiversity Strategy and Action Plan (NBSAP) details the core strategies and actions to conserve Belize's biodiversity stock and resources that is in harmony with improved quality of life and livelihoods. The NBSAP strategies and activities outline how to improve environmental stewardship by understanding the importance of marine, freshwater and terrestrial biodiversity and their benefits and values. The NBASP also focuses on reducing the direct and indirect pressure on ecosystems so as to sustain, and enhance the country's biodiversity and the functional ecosystem services that it provides through capacity building and public participation.

National Environmental Policy and Strategy 2014-2024	<p>The National Environmental Policy (NEP) centers on environmental sustainability, and the sound management of natural resources and the environment for sustainable alternative livelihood opportunities for Belize. The NEP and its attendant priorities and action plans are premised on addressing the existing environmental challenges, institutional capacities and resource deficits. The NEP promotes best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others.</p>
National Agroforestry Policy	<p>The vision of the Agroforestry Policy is to mainstream the use of agroforestry systems that are productive, competitive and adoptable by small, medium-size, large and commercial farmers, producers and land users. The Agroforestry Policy will enhance food production and reach food security while at the same time conserving the natural resources which will contribute to the improvement of the environment and subsequently decrease greenhouse gas emissions. It will also strengthen the resilience of the agricultural sector to climate change.</p> <p>The objectives of the policy are to improve productivity, resilience and sustainability of agriculture and forestry through the adoption of agroforestry systems that promote improved livelihood and wellbeing of the present and future generations, with particular attention to substantively include the youth, women, Mayan peoples and other impoverished populations in Belize. Additionally, the policy proposes and advocates for enabling legislation, legislative reforms, complementary policies that allow for greater alignment and synergies among the relevant sectors, institutions and programs for its widespread adoption and implementation (GoB, 2020).</p>
Forest Policy	<p>The Forest Policy seeks “a thriving and integrated forest sector, where forests of Belize are valued for their significant economic, socio-cultural and environmental benefits and are sustainably managed for the lasting benefit of the nation”. Recognizing the critical value of forests to sustainable development, land use, sustainable forest management, biodiversity conservation, wildlife and protected areas management in Belize, the policy gives direction to ensure compatibility with the nation’s economic development, to create and maintain the national forest estate taking into consideration the need for agricultural development and the protection of the environment. The Forest Policy is grounded in the Constitution of Belize and responds to the Belize National Planning Framework- Horizon 2030 (FOREST DEPARTMENT, 2015).</p>
National Landscape Restoration Strategy	<p>The National Landscape Restoration Strategy set out the vision, mission, key result areas, strategic objectives and actions that are necessary to ensure that Belize meets or surpasses its Bonn Challenge pledge to restore 130 000 hectares of prioritized forest</p>

		and agricultural landscapes by 2030. The mission of the strategy is to conduct forest and agricultural landscape restoration initiatives within priority areas, via the creation of the enabling environment (policies/laws), local collaboration and broad partnerships, sharing lessons learnt and experiences and mobilizing resources, for the benefit of all Belizeans, but with a particular focus on building the capacity of farmers, rural and indigenous people and relevant institutions.
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**Component 2. Combating wildfires through adaptive management**

Enhanced protection from fires	National Climate Change Policy, Strategy and Action Plan	The policy provides guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies and sectors. It also contributes towards the development of the Nationally Determined Contributions (NDCs) of the country.
	Forest Policy	The Forest Policy seeks “a thriving and integrated forest sector, where forests of Belize are valued for their significant economic, socio-cultural and environmental benefits and are sustainably managed for the lasting benefit of the nation”. Recognizing the critical value of forests to sustainable development, land use, sustainable forest management, biodiversity conservation, wildlife and protected areas management in Belize, the policy gives direction to ensure compatibility with the nation’s economic development, to create and maintain the national forest estate taking into consideration the need for agricultural development and the protection of the environment. The Forest Policy is grounded in the Constitution of Belize and responds to the Belize National Planning Framework- Horizon 2030 (FOREST DEPARTMENT, 2015).
	National Environmental Policy and Strategy 2014-2024	The National Environmental Policy (NEP) centers on environmental sustainability, and the sound management of natural resources and the environment for sustainable alternative livelihood opportunities for Belize. The NEP and its attendant priorities and action plans are premised on addressing the existing environmental challenges, institutional capacities and resource deficits. The NEP promotes best practices in disaster risk management and climate change adaptation, to use the land use policy and forest policy to ensure sustainable forest management, to increase alternative livelihood opportunities for people near protected areas to reduce poverty, provide incentives for reforestation among others.

**Component 3. Creating opportunities to support alternative livelihoods**

Increased livelihoods  Increased numbers of climate smart food production systems	Food and Agriculture Policy	The National Agricultural and Food Policy seeks to promote home food production utilizing backyard container gardening technologies. It also seeks to develop and implement programs targeted for women within the agriculture sector to become a support for family agriculture and home gardening through production of home goods.
	Medium-term Development strategy	The Medium-term Development Strategy (MTDS) operationalizes the development trajectory for Belize over the next three years from 2010 to 2013. The strategy focuses on six strategies: poverty reduction including social protection, economic

		transformation and growth, reducing trade deficit, citizen security, protection of the environment and stopping corruption. The MTDS is overseen and coordinated by the Ministry of Economic Development.
	MSME Strategy and Roadmap for Belize	The strategy and roadmap aims to foster the creation of a vibrant, competitive and supportive MSME ecosystem that facilitates entrepreneurship, job creation, scaling, value added products and services, and exports.

**Component 4. Building national capacity to access adaptation finance**

Increased technical capacity to better access climate finance	Nationally Determined Contributions	The NDCs are the national commitment that Belize made to act on climate change as part of the Paris Agreement of 2015 and as agreed on by 193 member states of the UN. Belize’s NDCs are aligned with the overall goal of the Growth and Sustainable Development Strategy (GSDS) which encompasses medium-term economic development, poverty reduction, and longer term sustainable development goals and enabling conditions.
	National Climate Change Policy, Strategy and Action Plan	The policy provides guidance for the development of processes that work towards the adaptation and mitigation of climate change in accordance with the national objective for sustainable development by working together with all other sectoral policies and sectors. It also contributes towards the development of the Nationally Determined Contributions (NDCs) of the country.
	National Climate Resilience Investment Plan	The national climate resilience investment plan will result in increasing resilience of women and men, the economy and environment in Belize to climate variability and climate change. The plan will also articulate strategies for adaptation to climate change, reduce poverty and enhance economic growth for sustainable development. This gives the opportunity of building climate resilience and capacity to improve disaster risk management across all sectors in Belize. Specific to climate adaptation the plan refers to the following: <ul style="list-style-type: none"> <li>- Technical Data &amp; Knowledge Transfer</li> <li>- Physical Interventions</li> <li>- Non-Physical Intervention</li> <li>- Policy &amp; Regulatory</li> <li>- National Climate Resilience Investment Plan (NCRIP) coordination, monitoring &amp; evaluation</li> </ul>

**Component 5. Community disaster risk management**

Increased technical capacity to address flooding	National Hazard Mitigation Policy 2004	The National Hazard Mitigation Policy is a comprehensive policy that guides activities relating to the mitigation of natural and technological hazards that do not currently exist in the country. It provides an integrated approach to hazard risk management and sustainable development at all levels of society. The policy provides a benchmark for stakeholder cooperation to actively address hazard reduction issues within the ambience of development planning, and as a way to avoid incalculable and irrecoverable damages to the environment including social and economic development. The policy also emphasizes on building national capacities to reduce the country’s vulnerability towards these hazards.
	National Climate Resilience Investment Plan	The national climate resilience investment plan will result in increasing resilience of women and men, the economy and environment in Belize to climate variability and climate change. The plan will also articulate strategies for adaptation to climate change, reduce poverty and enhance economic growth for

		<p>sustainable development. This gives the opportunity of building climate resilience and capacity to improve disaster risk management across all sectors in Belize. Specific to climate adaptation the plan refers to the following:</p> <ul style="list-style-type: none"> <li>- Technical Data &amp; Knowledge Transfer</li> <li>- Physical Interventions</li> <li>- Non-Physical Intervention</li> <li>- Policy &amp; Regulatory</li> <li>- National Climate Resilience Investment Plan (NCRIP) coordination, monitoring &amp; evaluation</li> </ul>
	The National Solid Waste Management Policy	This policy addresses the management of solid waste so as to ensure that the system of managing these waste is both financially and environmentally sustainable and doesn't interfere with the quality of life of the people.

Table 39: The lead institutions for the AF Project and Legislative Framework (Adapted from NCCPSAP)

Agencies	Portfolio Responsibility	Legislation/Regulation
<b>Component 1. Safeguarding forest and water resources through strategic protection and restoration solutions</b>		
<i>Protected Areas Conservation Trust (PACT)</i>	Protected Areas Conservation financing	Protected Areas Conservation Trust Act Cap 218
National Hydrological Service	Water Management and Water Quality	National Integrated Water Management Act The Environmental Protection Act Chapter 328
Belize Forest Department	Forest Restoration	Forest Act, Chp.13. Revised Edition 2000
<i>Ministry of Agriculture, Food Security &amp; Enterprise</i>	Forest Restoration and extension	Forest Act, Chp.13. Revised Edition 2000
<b>Component 2. Combating wildfires through adaptive management</b>		
<i>Belize Forest Department</i>	Forest Fire Management	Forest Act, Chp.13. Revised Edition 2000
<i>National Fire Service</i>	Forest Fire Management and capacity building	National Fire Act and Fire Brigades Act
<b>Component 3. Creating opportunities to support alternative livelihoods</b>		
<i>BELTRAIDE Ministry of Economic Development</i>	SBDC Belize - Small business development	Belize Trade and Development Service Act, 2019
Town Council	Small business development and strengthening	Town Council Act, Revised Edition 2000
Village Council	Small business development and strengthening	Village Council Act , Revised Edition 2000
<i>Ministry of Agriculture, Food Security &amp; Enterprise</i>	Agricultural extension (food production)	National Agriculture and Food Policy, 2015 -2030
<b>Component 4. Building national capacity to access adaption finance</b>		

<i>National Climate Change Office (NCCO)</i>	Climate Change	N/A
<i>Climate Finance Unit</i>	Climate Change Financing	N/A
<b>Component 5. Community disaster risk management</b>		
NEMO	Disaster Risk Management	Disaster Preparedness and Response Act 2000
Ministry of Works	Infrastructure	Belize Building Act 2017
Town Council	Disaster Risk Management & Infrastructure	Town Council Act
Village Council	Disaster Risk Management & Infrastructure	Village Council Act

**INSTITUTIONAL AND HUMAN RESOURCE CONSIDERATIONS**

The feasibility study pointed out the need to strengthen the technical, human resource capacity to enable the sound formulation and execution of outputs for the components. The study also informed that some components of this project are highly technical and will require the services and skills of specialists and technicians, such as engineers, hydrologists, agronomists, foresters and fire scientists. While these skills may not always be available at the community level, they are available domestically and the project should consider provisions for their inclusion, possibly through partnerships with specialist ministries and government agencies who can support community-based implementing partners. In some of the components, as **Table 40** further indicates, the project can build on the existing national expertise through collaborations and technical support from regional and international entities.

*Table 40: Institutional Structure and Key Management Responsibilities*

<b>Ministry</b>	<b>Key Agencies</b>	<b>Key Responsibilities</b>
<b>Component 1. Safeguarding forest and water resources through strategic protection and restoration solutions</b>		
Ministry of Sustainable Development, Climate Change & Disaster Risk Management	Belize Forest Department	Forest Restoration
Ministry of Natural Resources, Petroleum & Mining	National Hydrological Service	Water Management and Water Quality
Ministry of Agriculture, Food Security & Enterprise	Agriculture services	Forest Restoration
<b>Component 2. Combating wildfires through adaptive management</b>		
Ministry of Sustainable Development, Climate Change & Disaster Risk Management	Belize Forest Department	Forest Fire Management
Ministry of Sustainable Development, Climate Change & Disaster Risk Management	National Fire Service	Forest Fire Management and capacity building



<b>Component 3. Creating opportunities to support alternative livelihoods</b>		
Ministry of Finance, Economic Development and Investment	BELTRAIDE	SBDC Belize - Small business development
Ministry of Labour, Local Government, Rural Development	Town Council	Small business development and strengthening
Ministry of Labour, Local Government, Rural Development	Village Council	Small business development and strengthening
Ministry of Agriculture Food Security and Enterprise	Agriculture Services and extension assistance IICA	Agricultural extension for food production Technical expertise in food systems and agricultural production, supply chain and the rural economy
<b>Component 4. Building national capacity to access adaption finance</b>		
Ministry of Sustainable Development, Climate Change & Disaster Risk Management	<i>National Climate Change Office (NCCO)</i>	Climate Change Strategic Planning, Partnerships, Convening and Oversight roles, Technical Assistance
Ministry of Finance, Economic Development and Investment	<i>Climate Finance Unit</i>	Climate Change Financing Training and Technical Assistance
<b>Component 5. Community disaster risk management</b>		
	NEMO	Disaster Risk Management
Ministry of Labour, Local Government, Rural Development	Town Council	Disaster Risk Management & Infrastructure
Ministry of Labour, Local Government, Rural Development	Village Council	Disaster Risk Management & Infrastructure
Ministry of works	Works	Infrastructure

Table 41: Review of Human Capacities Sourcing

Availability of required Human and Technological resources			
	National	International	Explanation
<b>1. Safeguarding forests and water resources through strategic protection and restoration solutions</b>	x	x	This component will consist of a mix of national and international human resources to enable additional transfer of technical skills.
1.1. Restoration strategies developed	x	x	This component will require the integration of good practices and lessons learned from other countries. Existing partnerships and technical collaborations will facilitate ease of skills transfer.
1.2. Pilot water quality restoration activities in watershed	x		This component will require the strengthening of local knowledge and practice. Accessibility to globally accepted technical expertise will enhance biodiversity protection, preservation and stewardship in the areas of focus in the BRW.
<b>Component 2: Combating wildfires through adaptive management</b>	x	x	Fire management skills are slowly growing in Belize but this is constrained by the limited resources for countrywide expansion. .
2.1. Fire management strategy developed and implemented	x	x	To complete the outputs in this component, a mix of national and international expertise will be needed especially to support the NFS.
2.2. Improved wildfire management for forests and grasslands across Belize	x		Site specific expertise, especially in the south and north of Belize continue to grow but these are reliant on external resources and expertise.
<b>Component 3: Creating opportunities to support alternative livelihoods</b>	x	x	The capacities for this component are largely available in-country. IICA is a leading institution in this area and together with the Ministry of Agriculture, this component could be successfully advanced.
3.1 Climate-smart food production system successfully piloted	x	x	This component will require the integration of good practices and lessons learned from the region and internationally.
3.2. Nature-based businesses operational	x	x	Expertise in the country could be expanded through established collaborations with regional and international experts.
<b>Component 4: Building national capacity to access adaption finance</b>	x		Some expertise available in the country and this could be further expanded through regional and international collaborations to support strengthening at the community level.
4.1. Technical Assistance Program Piloted	x		This component will require the integration of good practices and lessons learned from the region and internationally. Partnerships with academia and private sector training and development entities can improve and expedite multi-level skills building.
4.2. Awareness raising and knowledge program instituted	x	x	This expertise is not developed in-country.
<b>5. Component 5: Community disaster risk management</b>	x		All the requisite skills are available in-country at the MIDH,CBA and NEMO.
<b>5.1</b> Drainage system in flood prone areas installed	x	x	All the requisite skills are available in-country at the MIDH, CBA and NEMO. However, the contractual process may require international competitive bidding.

## PART III: FINANCIAL CONSIDERATIONS

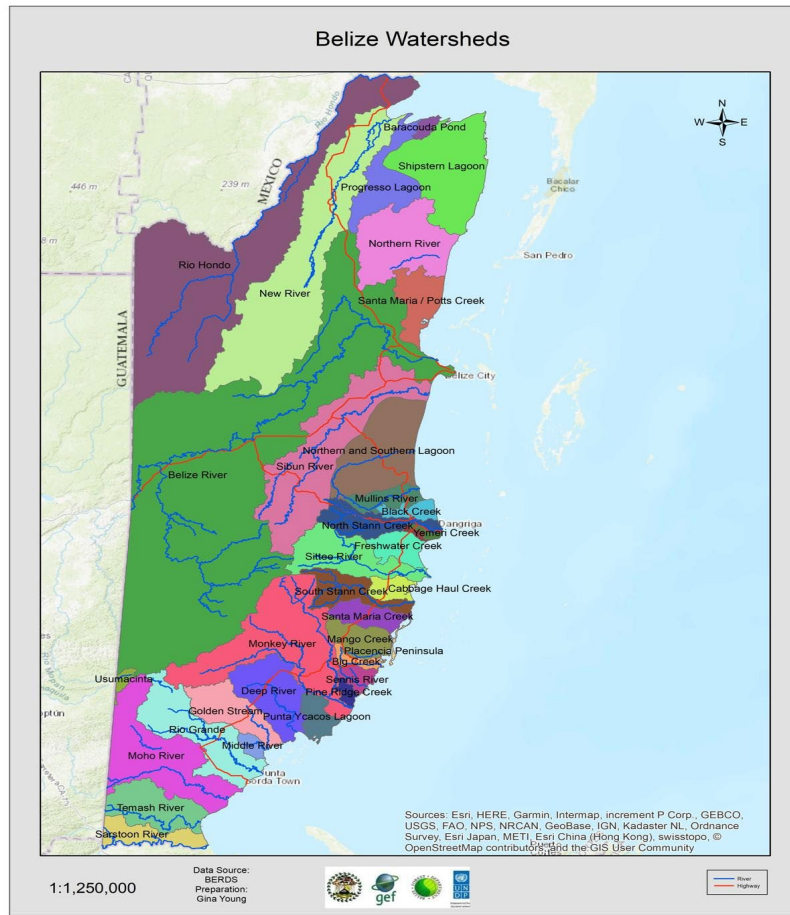
### **Beneficiaries**

As this project will have a national focus, the exact number of direct beneficiaries cannot be definitively stated. Yet, for the development of the proposal, the beneficiaries considered will constitute the national population which is 430,191. Some of the components, such as components one and two, lend for some more detailed accounting of direct beneficiaries because the regions of focus are a little more specific, but even here the exact numbers are not yet defined. The interconnectedness of the five (5) components will result in both direct and indirect beneficiaries across the country as the direct benefits from climate adaptation efforts in any one area of Belize will eventually impact other areas. The communities and beneficiaries of the project interventions will therefore benefit directly from the interconnected and comprehensive combination of adaptive programming strategies that can positively influence resilience at the household, community and national levels.

Since this project will be implemented under the EDA modality and thus relies on responses to the call for proposals from potential implementing agencies, it would be inaccurate to provide exact beneficiary numbers and the exact geographic areas of focus for the actions. In the stakeholder consultations conducted in person and virtually, the majority of the stakeholders articulated that they endorsed all components of the project, most especially because they are all applicable to their communities or area of work. Nonetheless, it is unlikely that each component will be implemented in all seven districts and for all populations. The subsequent section provides an indicative analysis of the financial impact of the actions on the bases of the component focus, the proposed component envelope and the geographical characteristics of the regions. Some considerations for related, past experiences with the component outputs in the area also bear on this brief analysis as summarized in **Table 43**.

Component one, focuses on the BRW which covers 29 communities (including major district towns) with a quantifiable population of approximately, 51,271 of which 25,334 are males and 25,937 are females.

**Figure 14: Watersheds in Belize**



Source: Young (2020) The Belize 6th National Report to the Convention on Biological Diversity.

**Table 43:** Considered communities for safeguarding forest and water resources through Strategic Protection and Restoration for component one

Considered Communities	District	Population (Male)	Population (Female)	Total Population
1. Benque Viejo Town	Cayo	3057	3091	6148
2. San Jose Succotz Village	Cayo	1,142	1,180	2,322
3. Calla Creek Village	Cayo	145	141	286
4. San Ignacio Town	Cayo	5,129	5,360	10,489
5. Santa Elena Town	Cayo	3,622	3,767	7,389
6. Esperanza	Cayo	641	621	1,262
7. Billy White	Cayo	286	300	586
8. Duck Run I	Cayo	333	330	663
9. Duck Run II	Cayo	180	191	371
10. Duck Run III	Cayo	190	210	400
11. Iguana Creek	Cayo	N/A	N/A	N/A
12. Ontario Village	Cayo	394	381	775
13. Teakettle	Cayo	887	860	1747
14. Young Bank	Cayo	N/A	N/A	N/A
15. Roaring Creek	Cayo	965	1,009	1,974

16.	More Tomorrow	Cayo	96	58	154
17.	Bermudian Landing	Belize	87	96	183
18.	Flowers Bank	Belize	67	54	121
19.	Isabella Bank	Belize	82	61	143
20.	Grace Bank	Belize	N/A	N/A	N/A
21.	Lord's Bank	Belize	1,517	1,623	3,140
22.	Burrell Boom	Belize	1,128	1,090	2,218
23.	Buttercup	Belize	TBD	TBD	TBD
24.	Scotland Half Moon	Belize	128	131	259
25.	Willows Bank	Belize	97	88	185
26.	Rancho Dolores	Belize	109	108	217
27.	Lemonal	Belize	82	87	169
28.	Double Head Cabbage	Belize	206	200	406
29.	St. Paul's Bank	Belize	79	74	153
Total 2010 Census			20,649	21,111	41,760
Indicative Total 2019 (26.68%) <sup>36</sup>			<b>26,224</b>	<b>26,810</b>	<b>53,034</b>

Component one has a total envelope of US\$1,100,000 that constitutes two outputs. Given the approximate population in the region of focus, the overall cost per beneficiary for the implementation of the intervention, can be considered to be at least US\$20.74 per beneficiary.

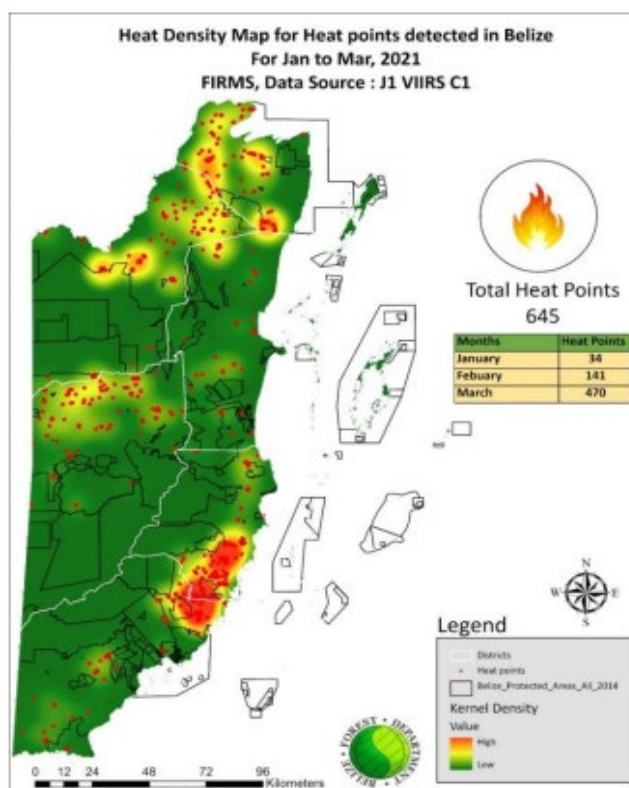
Component two has a total envelope of US\$1,000,000 for two outputs. As fire management is a concern, across rural Belize, this component is also considered in the context of the whole population benefiting from the outputs. Large scale deforestation and loss of ecosystems caused by fires, pest/disease and improper management will impact Belize's ability to adapt to a changing climate. Incidents of fires have become more pronounced in the country given climate variability which has resulted in changes to the wet and dry seasons. The increases in storm frequency and intensity tend to result in large-scale destruction of natural vegetation, thus increasing the fuel load for fires owing to the large quantity of debris.

As specified by the PACT Concept Note for the BCRTA project, wildfires pose a threat in many communities to the safety of human health (**Figure 15**). These communities are often outside of the areas serviced by the National Fire Services (NFS) and will require community level fire management protocols to address their needs.

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<sup>36</sup> This is the base percentage increase calculation for populations in the villages and towns as per the SIB Population estimates for 2019

**Figure 15:** Wildfire points in Belize for the first-quarter of 2021



Source: Belize Forest Department, (2021)

The Forest Department indicated that clearing and burning of vegetation along power lines has been and continues to be a major cause of forest fires (GONZALEZ, 2020). The heat map above shows that in 2020 approximately 237 forest fires destroyed tracts of lands in western and southern Belize (**Figure 15**). The villages where wildfires occurred and where there is need for capacity building and strengthening of skills for first responders can be seen below in **Table 11**. Indicatively, interventions in Component 2 have the potential to provide the resources needed to manage the forest and grassland fires in these rural areas that are not easily accessible by the NFS.

**Table 11:** Considered communities to combat wildfires through adaptive management for component two

Considered Communities	District	Population (Male)	Population (Female)	Total Population
Sarteneja Village	Corozal	919	905	1,824
Crooked Tree Village	Belize	418	387	805
Ladyville	Belize	2,672	2,786	5,458
Hattieville Village	Belize	1,104	1,240	2,344
Independence Village	Stann Creek	2,011	2,003	4,014

Total 2010	7,124	7,321	14,445
Indicative Total 2019 (26.68%) <sup>37</sup>	9,047	9,298	18,345

Indicatively, component two can generate proposals that may focus on the communities in **Table 11** above, which covers 5 communities extending through the north, central and southern Belize. Cumulatively, these communities have a quantifiable population of approximately 18,345 of which 9,047 are males and 9,298 are females. This component has an envelope of US\$1,000,000.00 providing for an indicative cost per beneficiary of US\$54.50.

Component three to five will generate interests across the country, potentially in rural and urban communities. Proposals focusing on sustainable food production systems will likely target rural populations where agricultural production predominates. However, both rural and urban populations stand to benefit from nature-based business support. Similarly, proposals for component four, climate finance capacity building are unlikely to have a geographic focus. However, the number of direct beneficiaries for this component will likely be smaller given the total funding allocation and the focus on civil society organizations. For proposals addressing actions in component five, both rural and urban communities stand to benefit. Similar to the latter components, interests in drainage systems may generate proposals from implementing agencies across the country. Given that proposals may come from across the country for actions in components three (US\$1,100,000), four (\$280,000) and five(US\$684,820) the national population (430,191) is used as a reference point to estimate costs per beneficiary per component. Indicatively, this means that the cost per beneficiary is US\$2.55 for component three, US\$0.65 for component four, and US\$1.59(Component five). The beneficiary population for components one and two have a reasonable split between women and men; and as the national population is almost evenly split between women and men, both sexes will benefit generally from the implementation of the project actions.

*Table 42: Beneficiary Overview*

Components	Beneficiaries (potential total)	Focus Area	Funding Allocation	Indicative Cost/Capita (In US\$)
<b>1. Safeguarding forests and water resources through strategic protection and restoration solutions</b>	<b>53,034</b>	<b>Belize River Watershed, Cayo District (Macal and Mopan Rivers)</b>	<b>\$1,100,000</b>	<b>20.74</b>
1.1. Restoration strategies developed	53,034	Belize River Watershed	\$425,000	8.00
1.2. Pilot water quality restoration activities in watershed	53,034	Belize River Watershed	\$675,000	12.74

<sup>37</sup> The indicative populations for each of the components are calculated based on the percentage change in population from 2010 - 2019. This is an estimated population of beneficiaries by component.

<b>Component 2: Combating wildfires through adaptive management</b>	<b>18,345</b>		<b>\$1,000,000</b>	<b>54.51</b>
2.1. Fire management strategy developed and implemented	18,345	Northern, Central, and Southern Belize	465,000	25.35
2.2. Improved wildfire management for forests and grasslands across Belize	18,345	Northern, Central, and Southern Belize	535,000	29.16
<b>Component 3: Creating opportunities to support alternative livelihoods</b>	<b>430,191</b>	National	<b>\$1,100,000</b>	<b>2.55</b>
3.1. Climate-smart food production system successfully piloted	430,191	National	875,000	2.03
3.2. Nature-based businesses operational	430,191	National	225,000	0.52
<b>Component 4: Building national capacity to access adaption finance</b>	<b>430,191</b>	National	<b>\$280,000</b>	<b>0.65</b>
4.1. Technical Assistance Program Piloted	430,191	National	155,000	0.36
4.2. Awareness raising and knowledge program instituted	430,191	National	125,000	0.29
<b>5. Component 5: Community disaster risk management</b>	<b>430,191</b>	National	<b>\$684,820</b>	<b>1.59</b>
Project Management			<b>\$835,180</b>	
<b>Total</b>	<b>430,191</b>		<b>\$5,000,000</b>	<b>11.62</b>

## PART IV: CONCLUSIONS

Table 43: Feasibility Assessment Summary

Criteria	Feasibility scale			Summary findings
	Not Feasible	Possible /Needs Action	Yes, is feasible	
Relevance			X	As a SIDS, climate resilience programming and project implementation are paramount for Belize. More importantly, this project's focus on the rural economy, safety and security of communities and households, as well as on national competencies for climate financing and framework implementation are highly relevant for Belize.
Policy and legislation			X	Belize has made significant progress formulating policies, frameworks and structure for climate adaptation. However, implementation vigilance and consistency



				remain a challenge. The components of this project will advance such efforts.
Human resources		X	X	The successful implementation of all components of the project, will require a reasonable combination of national and external expertise, skilled and unskilled labour, local knowledge and experiences and national and sub-national, inter-agency, and intra-agency collaboration. On this, PACT's project management as well as its results-based coordination and convening efforts for reporting, knowledge management and oversight will be critical to the success of the project.
Research and technologies			X	Existing expertise and collaborative partnerships with national, regional and international entities can be leveraged by IAs to advance the actions in each of the components.
Beneficiaries			X	The beneficiaries of this project are located across Belize. However, the outputs invariably lean toward a rural beneficiary focus especially because Belize is predominantly rural and, this is where some of the most vulnerable populations live. At the same time, the project will complement the AF funded project for coastal adaptation in Belize, a region where vulnerable populations also predominate. Components 1, 2, and 3 will focus principally in the rural communities while components 3, and 4 have a dual rural and urban focus.
Cost			X	The cost per beneficiary ranges from US\$0.29 per person (component 4.2) to US\$29.13 per person (component 2.2). The average cost for the project is US\$1.59 (excluding PCM and PEC costs) which is low considering the extent of resilience that can be generated for the entire population. At the same time, this is a relatively small investment alongside other national adaptation efforts by Belize to build household, community and institutional resilience to climate change.
Sustainability			X	The project proposes three strategies, implementation plans, network formalization and institutionalization, research and evidence-based planning for restorative actions, systematization of climate financing, six demonstration pilots combined for agriculture and food production and safety and security, household income generation, small-holding productivity yields, entrepreneurial training and communication and infrastructure construction fully in line with national standards and building codes. It is also explicit about the integration of women and indigenous populations as well as youth across all components, ensuring that no one is left behind in climate resilience building. The communication and outreach efforts as well as support for direct implementation by communities will help to advance Belize's commitment to the SDGs and the Paris Agreement.

## ANNEX III STAKEHOLDER CONSULTATION REPORT

### PART I STAKEHOLDER ENGAGEMENT

#### Introduction

A series of consultations were conducted during the development of this project proposal. Participants from the western, central and southern regions of the country were regular participants of these consultations. Efforts to reach out to participants in the north of the country proved challenging and participation from communities were not secured. Overall, the consultations were held to help gather information and validate the proposed activities established within the project proposal. A feasibility study and gender assessment were conducted to determine the extent by which the social, economic, technical and environmental factors of each to the five (5) project components will build resilience for climate adaptation.

The stakeholder engagement began on October 19th 2022, December 1st, December 3rd and December 22nd 2022. The consultations were held virtually and face-to-face with civil society representatives, NGOs and public servants, private sector representatives, village councils and town councils.

*Table 1: Stakeholder engagement*

<b>Belize District</b>	<b>Cayo District</b>	<b>Stann Creek District</b>	<b>Toledo District</b>
Willow's Bank Village	Belmopan City	Santa Rosa Village	Mafredi Village
Boston Village	Armenia Village	San Roman Village	Criquet Jute Village
Gales Point Village	St. Margaret's Village	Savannah Forest Station	Aguacate Village
Gracie Rock Village	Esperanza Village		
La Democracia Village	Buena Vista Village		

#### Methodology

##### *Conduct of the Gender Assessment and Feasibility Study*

Together with PACT, we attempted to identify stakeholders that could represent each of the five components of the project. We also applied a consultation framework and accompanying tools to gather information from the stakeholders so that stakeholders could inform the systematic identification of the social, technical, environmental, and gender related matters for inclusion in the feasibility study and gender

assessment. This process also enabled the gathering of primary information on the project components fit alongside the requisite mandates, competencies, experiences and needs of stakeholders.

To validate that the findings from data collected are true representations of the stakeholders' reality in terms of climate change, the validation sessions of a half-day each served as additional opportunities to present the findings and expand upon potential sub-projects that can be considered as building resilience in the applicant communities.

### ***Draft Feasibility Study and Gender Assessment***

At the completion of the consultations process, the key results of the stakeholder consultations further enabled the completion of the drafts of the gender assessment and feasibility study. The draft report permitted for a first review and feedback by PACT on the overall findings of the consultancy.

### ***Validation Session for Feasibility Study and Gender Assessment***

In these sessions the final draft of the feasibility study and gender assessment were presented to the stakeholders and clients. Furthermore, the validation exercise introduced the recommendations of the feasibility study and the gender assessment as part of the implementation of the project “Building Community Resilience via Transformative Adaptation”.

### ***Development of the Project Proposal***

For the development of the proposal, they could reasonably provide feedback and insights on one or all of the project components. For these consultations, a consultation framework and accompanying tools to gather information from the stakeholders was applied. The framework included a presentation on the project context, the proposed outcomes, outputs and actions to be undertaken for the project period of five years.

The inception meeting and initial engagement with the lead agency were held virtually. The first round of stakeholders' meetings for the project proposal development process were held in-person. These meetings were attended by both urban and rural participants, although mostly men attended since they are more likely to have leadership roles in their communities.

### ***Consultation Planning and Implementation***

A schedule of meetings was prepared and finalized based on feedback from stakeholders about their potential availability to participate in the consultation and then validation sessions. Some of the participants from the feasibility study and gender assessments participated in the consultations and this enabled their full understanding and familiarity with the process from assessment to response via the project proposal.

The proposal development and validation meetings were conducted mostly with the participation of village leaders from civil society organizations, women's groups and the private sector, international development

organizations, representatives from NGOs and public servants from aligned ministries. The community leaders were contacted through the National Association of Village Councils while invitations to public officers and government representatives were sent to the offices of the chief executive officer for referrals. NGOs were invited through their respective executive directors. Some stakeholders were unable to attend the meeting. Attempts were made to reschedule review and validation meetings to accommodate greater participation but hurricane emergencies and later the constraints from end of year activities to close offices before the Christmas break proved difficult to further increase stakeholder uptake of the invitations.

The consultations were planned to last between five and six hours for face-to-face sessions. The virtual sessions were planned to last no more than three hours. All sessions included a presentation which explained the finding of the feasibility study for the five components and the gender assessment. During the consultations, the stakeholders discussed each component, sought clarifications and justified the need for the components to be implemented in their respective communities and districts. Stakeholders provided feedback to assist with the determination of the baseline data, risk assessment, gender considerations, and sustainability measures for each of the components. Furthermore, they elaborated on the project proposal development and offered feedback to the actions that were previously identified at the concept development stage. At the end of the consultations, they validated the components and the activities proposed.

## **Results**

Some of the Issue that were highlighted during the proposal development process consultations were related to:

- Representatives of communities (chairpersons) and civil society organization leaders indicated their satisfaction with the idea and scope of the project and they have expressed significant interest in responding to the call for proposal from PACT.
- Stakeholders strongly believe that the activities or actions for climate change adaptation are also aligned with the need to revitalize their communities since the components are also developmental in nature. They were keen to express that climate adaptation efforts and actions were also needed because of slow development response in their communities.
- However, they have highlighted issues that they are experiencing as farmers and as a community that would require projects like these to strengthen their adaptive capacity to confront these challenges: these challenges are the following.

- **Challenges identified by stakeholders from the Cayo and Belize District**

As part of the project proposal development process, stakeholders in the districts consulted also expressed some of the challenges they are experiencing and which they consider to be key to adaptation measures.

These challenges include that:

- Farmers and representatives are concerned that there is limited access to extension services within their communities to support sustainable production.

- There is no noticeable enforcement of the 66ft buffer preventing cultivation of agricultural crops alongside rivers and other water bodies to which this regulation applies.
  - Farmers knowledge on sustainable agricultural practices on farms needs improving
  - Forest rangers need technical and community engagement training for the protection of forests and ecosystem services.
  - There are limited organizational partnerships/networks among farmers and producer organizations even in the same district.
  - Roads and infrastructure linking farming households to markets and to commercial centers are frequently in disrepair and are unable to withstand heavy and consistent rains as well as extreme weather conditions.
  - There is limited basic knowledge and financial support to produce goods and to develop these efforts into businesses; women are challenged to access microfinances and field technical support to grow their nature-based business ideas.
  - There is no access to land since rural lands are increasingly being sold at commercial rates. Culturally, women are unlikely to inherit family-owned land.
  - There is scant effort to promote and manage land use planning as a measure of sustainability and climate change adaptation in rural communities.
- **Challenges identified by stakeholders from the Toledo and Stann Creek District**
    - **Impact of rains, uncertain and variable weather**
      - As one of the wettest regions in the country, stakeholders from these districts informed that excessive rain and humidity have become issues for farmers. They are now experiencing rot in seedlings and low germination rates due to inundation. Farmers have also begun to experience burnt leaves due to extreme humidity.
      - An increase of pests has been visible in produce due to the presence of worm infestation, and more birds eating the crops and fruits on cultivated plots.
      - Post-harvest production has been severely affected due to high humidity and excessive rains causing loss of products after harvesting.
      - Similar to the consultation held in the Cayo and Belize Districts, farmers have identified that there are limited extension services available to them, both as male and female farmers.
      - Farmers are experiencing a shift in the agricultural production seasons due to pests and diseases that are difficult to control and due to decrease in soil fertility and soil erosion.
      - Water has been identified to be an issue for agricultural production in communities like Santa Rosa and San Roman Villages in the Stann Creek District. The water present in these villages is only sufficient for residential use; this is due to the geographical location of the villages.

- Area for agricultural production in some of the villages are limited thus limiting the ability to produce sufficient food both for subsistence and the domestic market where there is an increasing demand due to their proximity to one of Belize's main tourist hubs.
  - Communities like Santa Rosa are experiencing pressures because of internal migration from the Cayo and Toledo districts since people are looking for jobs in the tourism industry. This causes pressure on the land, water and other natural resources in the village.
  - The communities have also been exposed to the issue of over harvesting of natural resources like fish from the rivers and lagoons within the communities by mobile populations or people from other communities and this affects subsistence.
  - **Issues related to sanitation:** There are issues related to water distribution within the community (for example in Mafredi in the Toledo District) due to destruction of nearby forests because of logging which in turn affects water flow and water contamination. Communities are also experiencing high levels of bacteria and fecal coliform in water that could be used for household purposes.
  - **Land demarcation for forest and resource protection:** Communities need to have their lands demarcated to aid with the designation of protected areas. Communities also need assistance with organizing to apply for and participate in grant funding so that they can develop climate financing and resource mobilization capacities to drive resilience to climate change from within their communities.
- **Validation feedback for proposed activities per components**
    - Component 1: Stakeholders highlighted the need to implement riparian reforestation programs and work closely with NGO's like Ya'axche Conservation Trust to provide training in creating wildlife buffers that will serve as food banks for biodiversity especially birds. Stakeholders were also interested in programs for the restoration of potable water systems.
    - Component 2: Stakeholders validated the need to provide education awareness and outreach for fire management, to establish fire brigades and enhance fire agencies network with fire departments, agriculture department, forest department to work together. Stakeholders also reinforced the importance and the need to create community fire monitors including a system to issue fire permits at the community level as strategy for fire management.
    - Component 3: Stakeholders agreed with the need for capacity building in business training, pricing adjustments for domestic and international markets, extension and outreach services for production and added value, including the provision of equipment, packaging, marketing support and the strengthening producer organizations.
    - Component 5: community members highlighted its necessity to receive basic training to monitor infrastructure and to conduct preventive actions such as solid waste management

(garbage), cleaning and monitoring the status of drains and instituting proper drainage systems, along with drain and flood committees.

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### Consultation synopsis by Stakeholder Group

Table 2: Consultation synopsis

Stakeholder/Community	Objective	Outcome	Conclusion
Leading Agency & Firm September 2022	Inception presentation and how the proposal documentation will be developed	Relevant information was shared and obtained that will be integrated into the development of the proposal	Relevant information was obtained and integrated into the proposal development
Civil society, NGOs and public servants October 19th 2022	To inform and validate the results found from the feasibility study and gender assessment	Results were validated and accepted by stakeholders	Consultation was supported by stakeholders
Civil society December 1st 2022	To validate the proposed actions and activities for each component within the project proposal, gender action plan etc.	Challenges under each components were identified by stakeholders and relevant recommendation was identified thus validating the activities proposed under each component on the project	Relevant information was gathered and integrated into the project proposal development
Civil society December 3rd 2022			
Government agencies, civil society, private sector and finance institutions December 22, 2022	To validate the proposed actions and activities for each component within the project proposal, gender action plan etc.	Validation of components as well as reiterating the need for assistance and partnerships to develop proposals for communities that need the actions the most.  A poll on priority regions of focus was conducted using a mentimeter.	Relevant information was gathered and integrated into the project proposal development  Proposed outcomes and actions were accepted by stakeholders.  Generally, stakeholders agreed that the components are relevant in all districts, even as some matters might be more urgent in others

### Conclusion:

The direct and indirect impacts of climate change are evident throughout the country which is a result of anthropogenic activities such as deforestation, natural disaster and fire incidents. It was agreed and accepted by stakeholders that raising awareness and outreach, riparian and forest restoration programs,

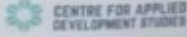
establishment of fire brigades and training of fire management at the local level are ways that can contribute to the adoption of the impacts of climate change.

The implementation of components one (1), two (2), three (3) and five (5) are essential actions of the project because these will contribute to the strengthening of local communities' knowledge and awareness of the impacts of climate change. This will also increase their preparedness and capacity to be able to adopt the said impacts that are happening very rapidly.

The implementation of component four (4) will assist communities (CSO), and public entities significantly through training and capacity building. These efforts will position local communities, NGOs and national entities to develop sustainable proposals for climate financing from local and international funding sources. Improved access to climate finance will contribute towards local and rural development but most importantly, this will increase national adaptation to climate change and variability.

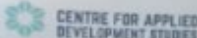


### PART III: PARTICIPANTS LISTS


**CENTRE FOR APPLIED DEVELOPMENT STUDIES**

**VALIDATION SESSION**  
**BUILDING COMMUNITY RESILIENCE via TRANSFORMATIVE ADAPTATION**  
**For the PROTECTED AREAS CONSERVATION TRUST (PACT)**  
**THURSDAY, 1<sup>st</sup> DECEMBER 2022**  
**8:30 A.M. – 1:00 P.M.**  
**KIKI WITZ LTD.**  
**ATTENDANCE SHEET**

NO.	NAME	ORGANIZATION	POSITION	EMAIL ADDRESS & TELEPHONE NUMBER	SIGNATURE
1	Patricio Mene	Esperanza V. Council	Asst. Secretary	620-0982	[Signature]
2	Byron Acuña	Esperanza V. Village Council	Chairperson	633-6024	[Signature]
3	Abigail Kiki	PACT	PDO	622-0379	[Signature]
4	JASON AITKRAFT	Gula Point Muntee	chair person	651-0425	[Signature]
5	José Salvador Mene	St. Margaret's Village	Chairman, Village Council	635-4855	[Signature]
6	Rodrigo García	Primaria Village	META Pres. Dnt	621-9741	[Signature]
7	Bernardo Rojas	Arroyo Village	META Secretary	620-6666	[Signature]
8	Samuel	Boston Village	Chairman, Village Council	613-1655	[Signature]
9	LANCE USHER	GRACIE ROUS VILLAGE	TREASURE	662-4406	[Signature]


**CENTRE FOR APPLIED DEVELOPMENT STUDIES**

**VALIDATION SESSION**  
**BUILDING COMMUNITY RESILIENCE via TRANSFORMATIVE ADAPTATION**  
**For the PROTECTED AREAS CONSERVATION TRUST (PACT)**  
**THURSDAY, 1<sup>st</sup> DECEMBER 2022**  
**8:30 A.M. – 1:00 P.M.**  
**KIKI WITZ LTD.**  
**ATTENDANCE SHEET**

NO.	NAME	ORGANIZATION	POSITION	EMAIL ADDRESS & TELEPHONE NUMBER	SIGNATURE
10	Peter Lewis	LA VORACIA CLAYTON	CHAIRPERSON	Peterlewis363@gmail.com	[Signature]
11	ER ROJAS	PACT	As. Dir. of Aff.	erodiaz@kikiwiz.com	[Signature]
12	Natalie Talacia Pack	Willem Bont Village Council	Chairperson	nataliepack@gmail.com	[Signature]
13	Violet Clarke	CAAS		violetc@gmail.com	[Signature]
14					
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VALIDATION SESSION  
 BUILDING COMMUNITY RESILIENCE via TRANSFORMATIVE ADAPTATION  
 For the PROTECTED AREAS CONSERVATION TRUST (PACT)  
 SATURDAY, 3<sup>RD</sup> DECEMBER 2022  
 8:30 A.M. - 1:00 P.M.  
 PELICAN BEACH RESORT  
 ATTENDANCE SHEET

NO.	NAME	ORGANIZATION	POSITION	EMAIL ADDRESS & TELEPHONE NUMBER	SIGNATURE
1	Rosario Padriguez	Mafalda Island	Chair Person Mafalda	cat@madonadigital.com 652-7441	[Signature]
2	Santiago Chac	Agucate Island	Chairman Agucate	652-7441	[Signature]
3	Ima [unclear]	FD	-	man.young@island.gov.gu	[Signature]
4	Francoise Belon	Crozet Islet Island	Chairperson Crozet Islet	francoise.belon@island.gov.gu	[Signature]
5	Bronco Ical	San Roman Island	San Roman Island Secretary	branco.ical@island.gov.gu	[Signature]
6	Augusta Ica	San Roman Island	Secretary San Roman	665-6667	[Signature]
7	Rosario Ica	San Roman Island	Chairman San Roman	652-7225	[Signature]
8	Alexis Morris	C.N.D.S	Operations Director	652-7376	[Signature]
9	Victor Yule	C.N.D.S	Technical Director	652-9616	[Signature]
10	Ed Romero	PACT	CEO	652-2042	[Signature]

VALIDATION SESSION  
 BUILDING COMMUNITY RESILIENCE via TRANSFORMATIVE ADAPTATION  
 For the PROTECTED AREAS CONSERVATION TRUST (PACT)  
 SATURDAY, 3<sup>RD</sup> DECEMBER 2022  
 8:30 A.M. - 1:00 P.M.  
 PELICAN BEACH RESORT  
 ATTENDANCE SHEET

NO.	NAME	ORGANIZATION	POSITION	EMAIL ADDRESS & TELEPHONE NUMBER	SIGNATURE
10	Helen Brown	C.N.D.S	Program Assistant	helen.brown@island.gov.gu 652-7174	[Signature]
11	Lydia Brown	C.N.D.S	-	lydia.brown@island.gov.gu 652-1174	[Signature]
12	Jay Cumber	C.N.D.S	Consultant	jay.cumber@island.gov.gu	[Signature]
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### List of Virtual Attendees

<b>Name</b>	<b>Position</b>	<b>Institution</b>
Santiago Choc	Chairperson	Aguacate Village, Toledo Dist
Ronaldo Oh	Chairperson	Santa Rosa Village, Stann Creek Dist
Natalie Pook	Chairperson	Willow's Bank Village Council
Dianny Hernandez		Caye Caulker
Margret McGann	Consultant	ABEN
Samuel Scott	CEO and Executive Director	North-South Institute Inc. Florida, USA
Markylie Alves		
Franklyn Magloire	Consultant/Climate Champion	DFC
Rudolfo Carcamo	General Manager	Atlantic Bank Ltd
Stephen Williams	Technical Specialist	IICA
Willie Chan		IICA
Shakera Arnold		BELTRAIDE
Leroy Martinez	Economist/GCF-FP	Climate Finance Unit, Ministry of Finance, Economic Development and Investment
Hannah St. Luce Martinez	Director	NBIO
Wilber Sabido	Chief Forest Officer	Forest Department
Eli Romero	Project Development Officer	PACT, Belmopan
Jay Coombs	Team Lead, CEO	CADS
Pamela Bradley	Portfolio Manager, Thematic Areas Studies & Assessment	CADS
Helen Choco	Research Consultant	CADS
Aretha Mortis	Operations Assistant	CADS

## Virtual list of Attendees

**22<sup>nd</sup> December 2022**

<b>No.</b>	<b>Name</b>	<b>Position</b>	<b>Institution</b>
1.	Jessie Young	Chairperson	Community Baboon Sanctuary
2.	Bethany Thimbrel	Intern	Policy Planning & Projects, Ministry of Sustainable Development, Climate Change, and Disaster Risk Management
3.	Judene Tingling Linarez	Coordinator	Policy Planning & Projects, Ministry of Sustainable Development, Climate Change, and Disaster Risk Management
4.	Sarah Chub	Chairperson	Boston Village Council
5.	Jocelyn Lemus	Administrator	Benque Viejo Town Council
6.	Willie Chan		Inter-American Institute for Cooperation on Agriculture
7.	Natalie Pook	Chairperson	Willows Bank Village Council
8.	Gwen Nunez Gonzales	National Garifuna Council	Dangriga Town
9.	Jason Altshaft	Chairperson	Gales Point Manatee Council
10.	Rudolfo Carcamo	General Manager	Atlantic Bank Ltd
11.	Burnaby Burgos	Chairperson	HETA
12.	Santiago Choc	Chairperson	Aguacate Village Council

13.	Said Gutierrez	Protected Areas Programme Director	Yaaxche Conservation Trust
14.	Yadeli Urbina	General Manager	La Inmaculada Credit Union
15.	Jorge A. Rosales	Mayor	Benque Viejo Town Council
16	Dr. Jay Coombs	Lead Consultant	Centre for Applied Development Studies
16.	Helen Choco	Research & Data Collection Consultant	Centre for Applied Development Studies
17.	Aretha Mortis	Operations Assistant	Centre for Applied Development Studies
18.	Eli Romero	Project Development Officer	Protected Areas Conservation Trust

## Annex IV Demonstrating Compliance with the Adaptation Fund's Environmental and Social Policy through the Environmental and Social Plan

Table 44: Environmental and Social Assessment

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	X	Low/No risk The project documents and outlines activities that are fully compliant with national legislation and standards of international law. The PACT ESMF and the accompanying project feasibility have been developed to support knowledge and awareness of legal and regulatory compliance.
<i>Access and Equity</i>	X	Low/No Risk The project is premised on the basis that climate change resilience and adaptation is improved and maintained when the most vulnerable communities and groups have access to, and equitable share of, national resources and support to offset the impacts of climatic events. Access to these resources has been initiated through consultations so that a wide cross-section of stakeholders who know of potential funding for proposals under this grant. The focus on hard to reach, isolated and least served populations will ensure that no one is left behind. Equity will also be assured through the provision of the technical and other assistance so that proposals are successfully executed and completed.

<i>Marginalised and Vulnerable Groups</i>	X	Low/Moderate Risk This project will not exacerbate or impose the further marginalization of already vulnerable groups including, women, children, people living with a disability, the rural poor, indigenous peoples, the elderly and LGBTQI populations. This project is aimed at reducing the existing vulnerabilities they face and made worse by climatic events. However, agriculture, forest management and some areas of entrepreneurship are still dominated by men and inherent biases to meet their needs first, can marginalize women and other vulnerable populations.
<i>Human Rights</i>	X	Low/No Risk The project will uphold economic, social and cultural rights that can be threatened by climate change and variability. The right to health, work, clean water, non-discrimination and life are some of the main rights that will be advanced through the implementation of this project. The right to gender equality will be maintained and supported across all components of the project. The project will adhere to FPIC and climate change actions and commitments to which Belize is obligated. As all SDGs are underpinned by human rights, the project will contribute to SDG 1 No Poverty, 2 Zero Hunger, 3 Good Health and Well-being , 5 Gender Equality, 8 Decent Work and Economic Growth, 11 Sustainable Cities and Communities, 12 Responsible Consumption and Production and 15 Life on Land.
<i>Gender Equity and Women's Empowerment</i>	X	Low/Medium risk The project will support women and girls inclusion and participation as a standard in all proposals funded. This means that executing entities will actively engage with women and include the contributions of gender specialists and experts in the design and implementation of actions. The project will adhere to cultural practices and traditions to the extent that these do not undermine the rights of women and girls. As may be deemed necessary, some actions may be developed specifically for women to close gaps in results and to ensure equity of benefits to them.
<i>Core Labor Rights</i>		Low/No Risk The project will abide by the labour laws and employee rights and protection in the workplace and in the conduct of their work-related duties.
<i>Involuntary Resettlement</i>	X	Low/No Risk No involuntary resettlement is expected during the implementation of the project.
<i>Indigenous Peoples</i>	X	Low/No Risk Indigenous peoples are expected to be among the beneficiaries of this project. ALL proposals will therefore undergo screening assessment to ensure that they are not adversely affected by any actions. Where Mayan communities are involved the National FPIC Protocol as mandated through the office of the Indigenous Peoples Commissioner will be applied to facilitate dialogue, information sharing and consent as provided therein.
<i>Protection of Natural Habitats</i>	X	Low/ No Risk The project aims at restoring natural resources including rivers and freshwater resources, biodiversity and forests. Increased and informed community participation and education will also advance protection of natural habitats.
<i>Conservation of Biological Diversity</i>	X	Low/No Risk No activity under this project will pose any threat to biodiversity or exacerbate existing threats. Proposals submitted will be subjected to screenings and assessments to reduce or eliminate risks to biodiversity.
<i>Climate Change</i>	X	Low/No Risks This project supports national efforts to build resilience to climate change. All components of the project focus on building competencies, skills, and material resources that can reduce the impacts that climate change can have on communities and households.

<i>Pollution Prevention and Resource Efficiency</i>	X	<p>Low/No Risks</p> <p>No residual or direct outputs of the project will contribute to pollution. The project will instead focus on efficiency in land use for agricultural production. The application of climate smart agriculture and forest restoration activities will contribute to pollution prevention.</p> <p>Although infrastructure construction will be implemented, efforts to ensure proper disposal of construction waste and environmentally and energy saving building practices will be encouraged and supported</p>
<i>Public Health</i>	X	<p>Low/No Risk</p> <p>There are no expected public health threats or challenges associated with this project. The project will promote public health through conservation and restoration of natural resources that promote public and mental health.</p>
<i>Physical and Cultural Heritage</i>	X	<p>Low/No Risk</p> <p>No risks to physical heritage are anticipated in this project. At the same time, some cultural practices including production practices and gender mainstreaming efforts can challenge existing and accepted cultural practices, especially those that prevent women from working and earning an income.</p>
<i>Lands and Soil Conservation</i>	X	<p>Low/No risk</p> <p>The actions in the project will not have negative effects on land and soil conservation. Components one and three of the project will support improvements to soil quality and restoration.</p>

# Acronyms

AF	Adaptation Fund
AOSIS	Alliance of Small Island States
BELTRAIDE	Belize Trade and Investment Development Service
BENIC	Belize National Indigenous Council
BNPAS	Belize National Protected Areas System
BRW	Belize River Watershed
BTB	Belize Tourism Board
CADS	Centre for Applied Development Studies
CBA	Central Building Authority
CEO	Chief Executive Officer
CBO	Community Based Organization
Coop. Dept.	Cooperative Department
COVID-19	Coronavirus Disease 2019
CSA	Climate Smart Agriculture
CSO	Civil Society Organizations
DAVCO	District Association of Village Councils
DoE	Department of the Environment
DFC	Development Finance Corporation
EDA	Enhanced Direct Access
EE	Executing Entity
e-NGO	Environmental Non-Governmental Organization
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework



ESSS	Environmental and Social Screening Standard
FAO	Food and Agriculture Organization
FD	Forest Department
FLR	Forest Landscape Restoration
FPIC	Free Prior and Informed Consent
GCF	Green Climate Fund
GEF-6	The Global Environment Facility -6
GDP	Gross Domestic Product
GESDI	Gender Equality and Social Inclusion
GIZ	Deutsche gesellschaft fur Internationale Zusammenarbeit
GoB	Government of Belize
GRM	Grievance Redress Mechanism
GSDS	Growth and Sustainable Development Strategy
GPS	Global Positioning System
IA	Implementing Agency
IICA	Inter-American Institute for Cooperation on Agriculture
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
ITVET	Institute for Technical & Vocational Education & Training
IUCN	International Union for the Conservation of Nature
KfW	Kreditanstalt furr Wiederaufban
LFS	Labour Force Survey
LLES	Limited Level Environmental Study
LSIA	Limited Social Impact Assessment
MCCAP	Marine Conservation and Climate Adaptation Project
M&E	Monitoring and Evaluation

MIDH	Ministry of Infrastructure Development and Housing
MG/L	Milligram per Liter
MSDCCDRM	Ministry of Sustainable Development, Climate Change and Disaster Risk Management
MSME	Micro, Small and Medium Enterprise
MTDS	Medium-term Development Strategy
NAVCO	National Association of Village Councils
NCCO	National Climate Change Office
NCCPSAP	National Climate Change Policy, Strategy and Action Plan
NCRIP	National Climate Resilience Investment Plan
NBIO	Belize National Biodiversity Office
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contributions
NEMO	National Emergency Management Organization
NEP	National Environmental Policy
NGOs	Non-Governmental Organizations
NFS	National Fire Service
NIE	National Implementing Agency
NSWMP	National Solid Waste Management Policy
PACT	Protected Areas Conservation Trust
PAHO/WHO	Pan American Health Organization/World Health Organization
PDNA	Post-Disaster Needs Assessments
PMU	Project Management Unit
PIAG	Project Implementing Agency Group
PSC	Project Steering Committee
REDD+	Reducing Emissions from Deforestation and Forest Degradation

ROAM	Restoration Opportunities Assessment Methodology
RTA	Road Traffic Accident
SDG	Sustainable Development Goals
SFM	Sustainable Forest Management
SIB	Statistical Institute of Belize
SIDS	Small Island Developing State
ToC	Theory of Change
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention for Climate Change
YCT	Ya'axché Conservation Trust

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## ADAPTATION FUND

### Letter of Endorsement by Government



## GOVERNMENT OF BELIZE

Ministry of Finance, Economic Development and Investment

**ECONOMIC DEVELOPMENT**  
P.O. Box 42  
Ground Floor, Sir Edney Cain Building  
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Our Ref: IA/AF/1-23 (2)

January 19, 2023

To: The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: Secretariat@Adaptation-Fund.org  
Fax: 202 522 3240/5

Subject: Endorsement for "*Building Community Resilience via Transformative Adaptation*"

In my capacity as designated authority for the Adaptation Fund in Belize, I confirm that the above national project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented and executed by the Protected Areas Conservation Trust (PACT).

Sincerely,



  
Osmond Martinez, Ph.D.  
Chief Executive Officer  
Ministry of Economic Development