



ADAPTATION FUND

**REQUEST FOR PROJECT/PROGRAMME  
FUNDING FROM THE ADAPTATION FUND**

Complete documentation should be sent to:

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## PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

### PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Enhanced Direct Access – Regular Project	
Country/ies:	Belize	
Title of Project/Programme:	Building Community Resilience via Transformative Adaptation	
Type of Implementing Entity:	National Implementing Entity (NIE)	
Implementing Entity:	Protected Areas Conservation Trust (PACT)	
Executing Entity/ies:	Protected Areas Conservation Trust	
Amount of Financing Requested:	5 Million	(in U.S Dollars Equivalent)

### Project / Programme Background and Context:

*Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.*

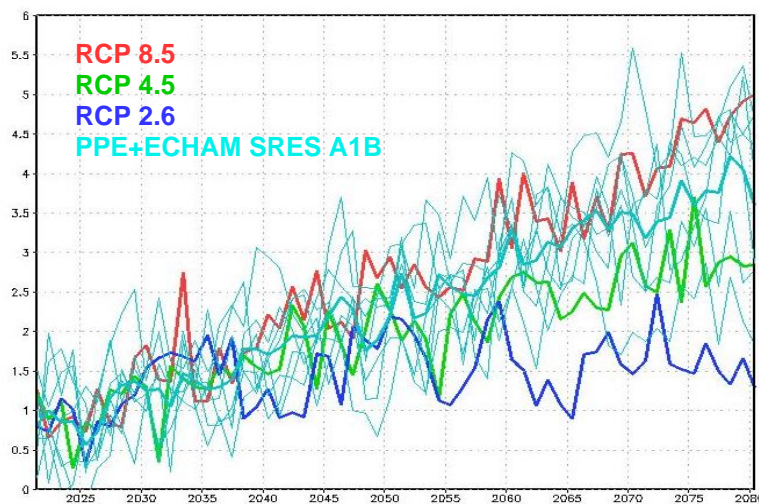
Belize is a small, low-lying country which covers 46,620 km<sup>2</sup> on the coast of Central America (Figure 2). Five percent of the country's territory consists of small islands and offshore cayes, with the remainder being on the mainland. The country is inhabited by approximately 419,199<sup>1</sup> persons, this includes 209,603 males and 209,596 females across 212 communities in 6 Districts. The country is a melting pot for cultural diversity, with a total of 13 ethnic groups including two indigenous groups – Garinagu and Maya.

The country contains fourteen broad natural ecosystems that can be further broken down into 68 ecosystems inclusive of broad-leaved forests, pine forests, mangrove forests, seagrass and coral reefs (Meerman, 2011). A total of 90% of Belize's recognized ecosystems have greater than 30% representation within the Belize National Protected Areas System (BNPAS). A 2014 assessment determined national terrestrial forest coverage to stand

<sup>1</sup> Mid-Year population estimate for 2020

at 61%, mostly contained with the BNPAS network. Belize has a history of cultural dependence on its natural resources which has resulted in the growth of ecosystem based economic sectors. Given the country's strong dependence on natural resources and ecosystem services, the effects of climate change and variability will in turn be detrimental to communities, livelihoods and key sectors of Belize.

As a low-lying developing state, Belize is highly vulnerable to the climate change impacts such as SLR, erosion, storm surges and flooding. A 2014 assessment categorized Belize's vulnerability index to climate change as extremely high; ranking 9<sup>th</sup> on the list of 38 other countries in Latin America and the Caribbean (CAF, 2014). The assessment highlighted the country's high risk to climate change based on its adaptive capacity linked to the vulnerability of the Agriculture Sector. Belize is seasonally affected by tropical storms and hurricanes, which on average, according to scientific reports, are becoming more intense each year due to the effects of human-induced global warming and higher sea surface temperatures. Belize is also highly exposed to other natural hazards such as flooding and drought, more pronounced in inland areas. These can lead to infrastructure and economic losses, especially in agricultural and inhabited areas during the hurricane season. There has also been evidence that the average annual temperature of Belize has been rising and is projected to rise further. Temperature projections carried out by experts from INSMET Cuba, showed that annual temperature changes from 2021 – 2080 versus 1961 – 1990 for four climate projection scenarios show a steady increase in mean temperature during the XXI century for Belize nationally (Figure 1).



*Figure 1: Interannual variations of mean temperature anomalies (°C) during the period 2021 until 2080 for four scenarios, with baseline period 1961-1990. (Centella & Benzanilla, 2019)*

In order to effectively address these issues, the threat of climate change requires multilateral action from policy makers, technical experts, the private and public sector as well as local communities, in order to seek solutions and make changes to effectively adapt to climate change impacts. To reduce vulnerability and enhance resilience to future climate risks and hazards Belize must devise mechanisms to adapt to the imminent changes affecting economic sectors, livelihoods and natural ecosystems.

### **Forest and Watershed Protection and Restoration**

Forests and watersheds are vital interconnected ecosystems that contribute to the survival of Belizean communities. In the absence of ecological integrity of these systems, community livelihoods and functioning are threatened. It has been recognized that Belize's climate adaptive capacity lies in the protection of key ecosystems inclusive of forest and associated water bodies. Despite its ecological importance, forests and

watersheds in the country are threatened by natural and anthropogenic factors, which have substantive impacts on the economy and communities of Belize. Large scale deforestation and loss of ecosystems due to damage caused by fires, pest/disease and improper management, will impact the country's ability to adapt to a changing climate. As such it is important that Belize devises and institutes concrete adaptive measures to restore ecosystems lost and protect those that are threatened, thus increasing the country's chances of successfully addressing climate change impacts.

Forests and waterbodies within watersheds work together to protect and provide water resources to the country. Belize has over 30 watersheds most of which originate within the Maya Mountains, a few of which are

transboundary. Water is a vital resource required for the continuity of life and the survival of communities, as such its protection in the face of climate change is crucial. Climate change threatens the availability of water due to changes in precipitation patterns and the hydrological cycle. Increased instances of drought reduce the quantity and quality of water available to communities, inclusive of those that depend on underground aquifers for the provision of water. Increased storms and periods of rain linked to climate change, results in flooding of water bodies, also decreasing the availability of potable water, as water becomes heavily saturated with sediments.

Although Belize has a high water per capita, the country's growing population and other anthropogenic impacts such as removal and degradation of natural ecosystems, threaten water security. Deforestation and degradation threaten the ecological integrity of watersheds decreasing their functionality. This results in minimized supporting and provisioning services of forested systems and watersheds. Deforestation also threatens biodiversity as it results in changes to the natural environment and habitat of key

species. Watersheds are also threatened by other anthropogenic activities such as agriculture and improper disposal of household waste, leading to health hazards and decreased water quality. A holistic approach to restoring watersheds is needed to protect water resources. As the impacts of climate change threaten the availability of water in the country, there is the need to formulate proactive solutions that promote the protection of water and forest resources in an ecologically sustainable manner.

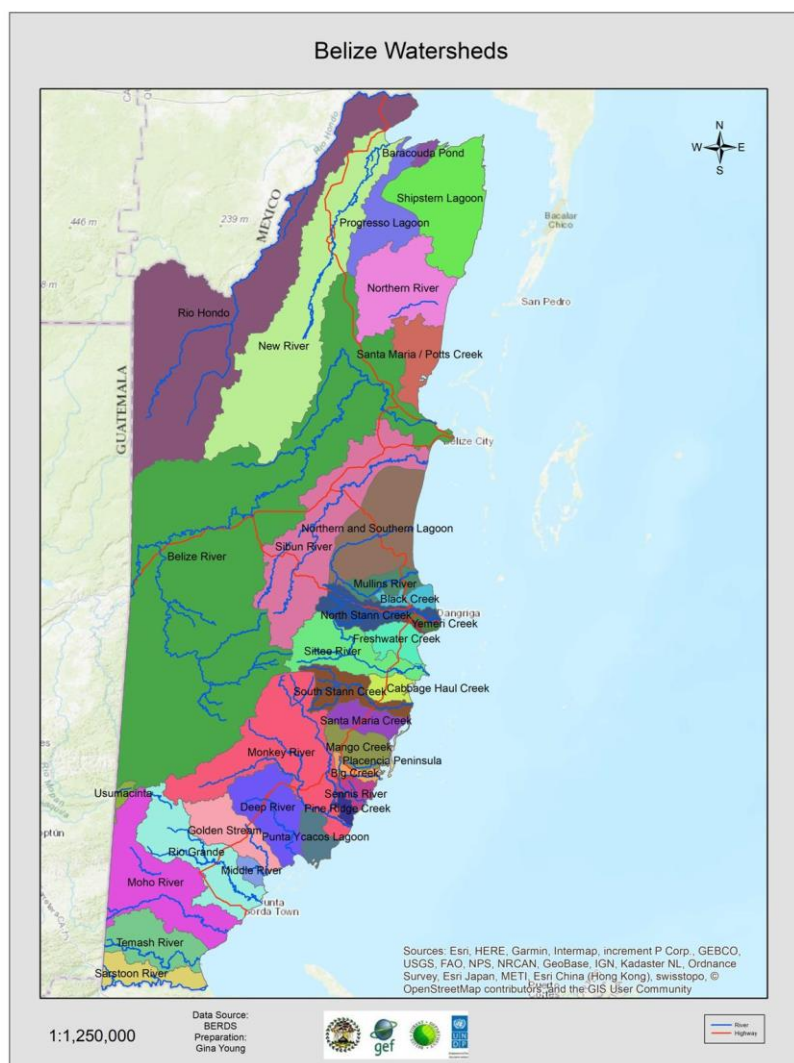


Figure 2: Watershed of Belize (Extracted from Sixth National Report to the CBD, 2020)



### Fire Management

Incidents of fires are becoming more pronounced in the country given climate variability which has resulted in changes to the pronounced wet and dry seasons of the country (Figure 3). An increase in temperature and periods of drought have also been noted, with hydrological droughts occurring more frequently in the country. The increase in storm frequency and intensity results in large scale destruction of natural vegetation thus increasing the fuel load for fires given the large quantity of debris. The above, coupled with decreases in rainfall has resulted in increased incidents of wildfires in the country, many in remote areas.

For many communities, wildfires pose a threat to safety and human health annually. These communities are often outside of the areas serviced by the National Fire Service (NFS) and require community adaptive fire management to address their needs. Three such communities are Hattieville, Crooked Tree and Sarteneja Village. These villages are presently not covered by the NFS network, possessing unique circumstances and vulnerabilities to fires. Hattieville is a village located about 13 miles outside of Belize City and is threatened yearly by wildfires on the open savannah plain on which it sits. Crooked Tree Village is remotely located 40.9km from the closes fire station, separated from the main roads via a narrow crossing through a large wetland area.

Many farms surrounding the village are prone to fires from slash and burn cultivation. Sarteneja Village, which is located in the northern part of the country, is about 24km from the nearest fire station in Corozal Town. For the NFS to respond to any threats of fires, equipment and personnel are required to traverse two (2) hand-cranked ferries along a dirt road to get to the village. The NFS has no coverage in the area. Each community has unique circumstances. Sarteneja Village for example is located next to the sea, hence the firefighter training response would be slightly different from the other targeted sites.

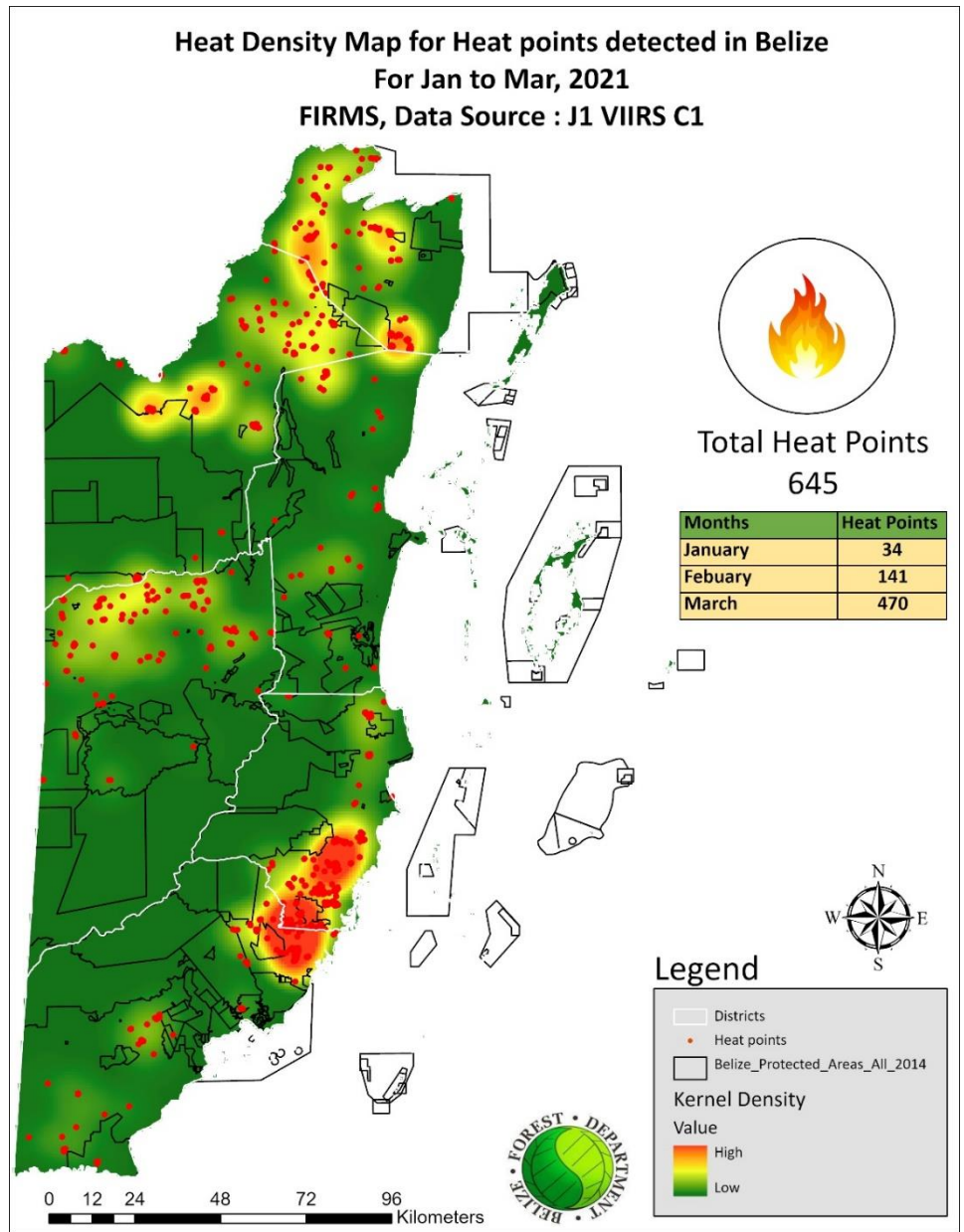


Figure 3: Heat Density Map (Source: Belize Forest Department)

### **Alternative Livelihoods**

Unsustainable agricultural practices (including traditional slash-and-burn cropping systems, arbitrary use of chemicals (herbicides and pesticides), and the planting of crops near rivers, or on hillsides) results in increased soil erosion and are degrading the forest, and neighboring, farm landscapes. These practices, because of relatively low productivity, are making it increasingly difficult for rural communities to maintain their livelihoods.

This situation is compounded by the advancing impacts of climate change. Unpredictable rainfall patterns make it increasingly difficult for farmers to manage cropping cycles (such as planting and harvesting). Greater storm intensity increases the incidences of flooding and general landscape and forest damage. This increases forest fire severity the following year - due to greater availability of dead wood suitable for burning, fuel load for fires. Unpredictable seasonal rainfall patterns combine with increased temperatures generates more severe droughts and increase incidences of pests and diseases. As climate change is making it even more difficult for communities to maintain their livelihoods, communities are increasingly turning to forests for additional resources (such as wood for cooking and unsustainable harvesting of non-forest products or using previously forested land for food production). The unsustainable use of such resources is significantly affecting the ecosystem services provided by the forests and, in turn, threatening the community's resilience to the impacts of climate change.

Communities experience several barriers to maintain their agricultural-based livelihoods, in the face of climate change. These include: (i) shortage of technical capacity in sustainable agriculture; (ii) shortage of alternative livelihood opportunities; and (iii) limited awareness about how these issues relate to community sustainability and climate change resilience.

Actions to address the above barriers, by supporting the target communities in developing livelihood strategies, will transform their landscape management approaches into ones that regenerate the landscape (including sequestering carbon from the atmosphere). This can be achieved by (i) building awareness about how landscape management choices impact ecosystem services and landscape sustainability; (ii) providing training and coaching in building regenerative agricultural systems (that build soils and protect biodiversity); and (iii) by providing training and coaching in enhancing or establishing sustainable land-scape based businesses that will not only support landscape regeneration but also enhance livelihoods, thereby increase community economic resilience.

The Food and Agriculture Organization of the United Nations (FAO) describes "sustainable diets" as "those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations." Such diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy, while optimizing natural and human resources. Hence there is the need to transform the current food producing systems into one using regenerative ecological principles by optimizing production diversity, eliminating harmful inputs, and leveraging beneficial biotic relationships which will then translate into safer wholesome foods that deliver key nutrient requirements for a healthy population.

Economic resilience will lead to economic stability for the participants. Much of the economic loss accrued to the participants are due to natural disasters such as droughts, floods, diseases. Enhancing capacity in the development and implementation of livelihood strategies resilient to climate change will not only improve the economical aspect of the participants but will also restore soils and other ecosystem services such as clean water and air.

### ***Disaster Risk Management – Flooding***

Flooding is another environmental issue magnified by climate change which results from increased intensity of storms and natural disasters (Figure 5). Floods are notably the most common disaster in the Latin America and Caribbean Region with 41 million persons affected by flooding from 2000-2019. During the 2020 Hurricane season, unprecedented floods caused by the heavy rains associated with Hurricane Eta and Iota resulted in large scale damage to the country, with Eta directly affecting approximately 50,000-60,000 persons in Belize. The impacts of the flooding to the Agricultural, Water, Health, Transportation and Housing sectors were significant. Housing in the western portion of the country were under several feet of water for days before the water subsided. Some community members were left homeless and significant damage to homes and business were reported resulting in economic losses. Flooding has been identified as having the highest damaging potential in Belize (UNISAR, 2015) causing damage to critical national infrastructure.

The impacts of flooding, resulting from natural disasters, is visible in many parts of Belize, including the coastal islands such as San Pedro and Caye Caulker (Figure 4). Both low lying islands are heavily populated with over 14,000 persons occupying the offshore cayes. Increased rain and tropical storms in recent years has threatened local infrastructure, human health and property of residents on the two islands. The National Emergency Management Organization (NEMO) in conjunction with the local government counterparts have preliminarily identified eight (8) vulnerable areas in both communities that are severely impacted by floods, requiring immediate interventions. These areas are occupied by approximately 8,700 persons and lack proper drainage to allow the efficient drainage of water following a flooding event. The ability to detect and evaluate an impending flooding threat can be extremely valuable in providing a timely response that can save lives and prevent property damage. Interventions under this proposed project will safeguard lives and communities that are threatened annually during periods of intense rains and natural disasters.

To successfully implement effective interventions an assessment is required to provide accurate information about hydrological flooding to evaluate the complexity of drainage needs in a given area.



*Figure 4: Flooding in San Pedro (Source: NEMO Belize)*

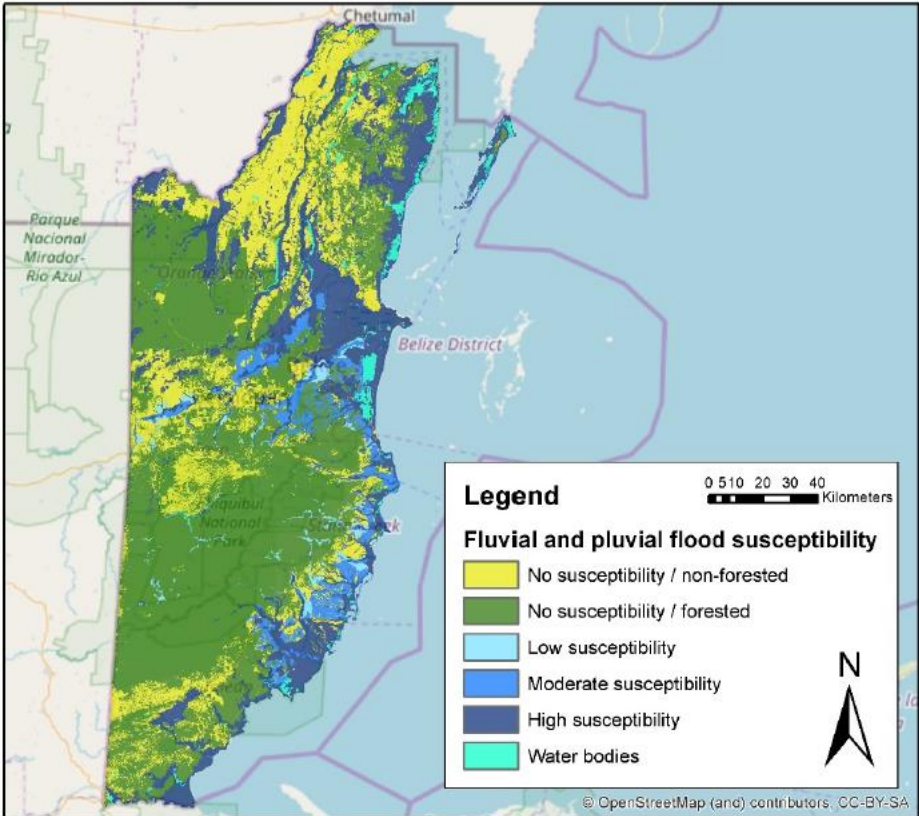


Figure 5: Fluvial and Pluvial Flood Susceptibility in Belize (Extracted from V&A Assessment, 2020)



## Project / Programme Objectives:

*List the main objectives of the project/programme.*

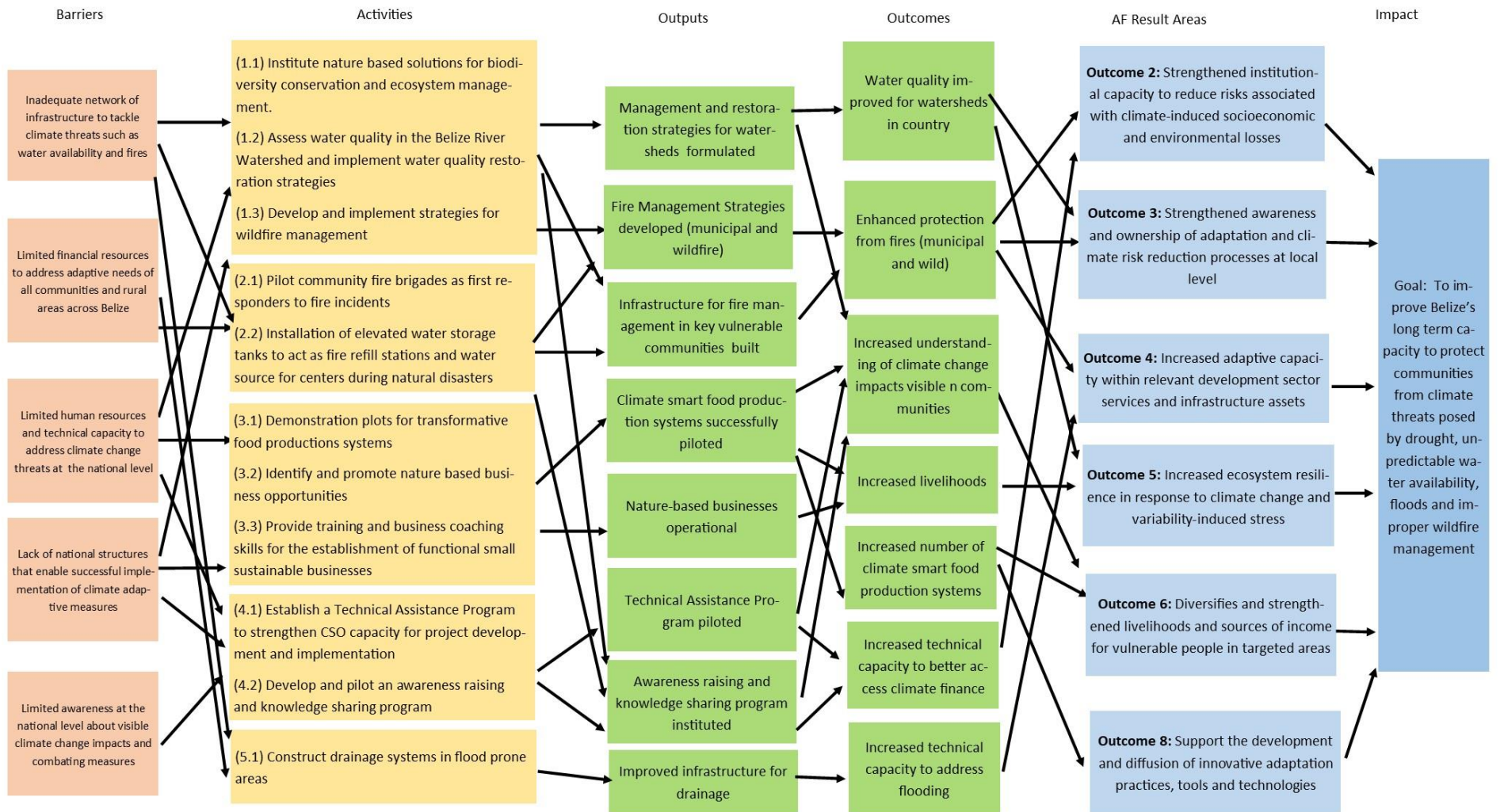
The main objective of the project is to restore, and enhance the protection of, vital ecosystem and corresponding ecosystem services to improve the well-being and livelihoods of vulnerable communities that are dependent on natural resources in the face of climate change and variability. Given the country's national dependence on natural resources for the provision of food, water, medicinal and construction materials, the sustainability of associated natural ecosystems is pivotal to the long-term survival of the economy and local communities. The impacts of climate change are visibly evident in many parts of the country and many different sectors. These impacts have compounded the resource management and utilization issues already affecting Belize. It is the aim of this project to create viable inexhaustible strategies and mechanisms that address prominent climate change impacts thereby securing resources, which enable a community's climatic response via adaptation. This will be achieved through **five interlinked Components or Thematic Areas**:

- 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

The objectives of this project are strategically aligned with the Adaptation Fund's Strategic Results Framework and combined the individual project components will enable key communities in Belize to adapt to the challenges such as unavailability of water, increased instances of wildfires caused by extended periods of drought as well as decreased agricultural productivity posed by climate change. Outcome 2 of the AF Strategic Result Framework is evident in the increased capacity of national entities and communities to address wildfires to ensure community health and safety. By providing the NFS and communities with the skills and equipment to minimize the impacts of fires communities will be able to mitigate the impact of climate related events. Capacity building actions under Component Four will also able national institutions to build knowledge and skills necessary to effectively engage international funding agencies and access climate finance. Outcome 3 will be achieved via the strengthening of NGOs, CBOs and regulatory agencies to address the impacts of climate change effectively via the institution of robust collaborative programs to protect water and forest resources. Actions under Component One and Two of the project require the establishment and long-term integration of expertise from various sectors to tackle the impending impacts of climate change. Outcome 4 is tied to the national infrastructure that will be put in place for wildlife management. The infrastructure, water storage facilities, will also serve a dual purpose of providing communities with water during times of natural disasters such as hurricanes and extended periods of drought. Fire towers will also provide NGOs within protected areas with the added advantage of identifying areas affected by forest fires, giving ample time to respond. Similarly, the improvement of drainage systems, under Component Five, will contribute to the increased adaptive national infrastructure. Outcome 5 is evident in the protection of forest, watershed and freshwater ecosystems under Component One and Three. Activities under the project aim to increase the adaptive capacity of water systems by increasing water quality and protecting the functionality of watersheds and riparian forests. By instituting climate transformative agricultural practices, the project will also protect forested ecosystems and biodiversity which are threatened by unsustainable agricultural practices which result in the extensive clearing of forested landscapes. Project Component 3 also ties in with Outcome 6 of the AF. In tacking unsustainable agricultural practices, the project proposes to create alternative sources of livelihood in areas threatened by deforestation. The actions will

minimize anthropogenic impact on forest and water systems by allowing communities to generate income in an environmentally conscious manner. Similarly, Component 4 also support the scaling up of innovative adaptation practices and tools in local communities, contributing to Outcome 8 of the Fund. Further information can be found in Annex 1.

### Theory of Change



**Project / Programme Components and Financing:**

<b>Project/Programme Components</b>	<b>Expected Concrete Outputs</b>	<b>Expected Outcomes</b>	<b>Amount (US\$)</b>
1. Safeguarding Forest and Water Resources through strategic protection and restoration solutions	1.1. Restoration strategies developed 1.2. Pilot water quality restoration activities in Watershed	Improved water quality of Rivers  Enhanced ecosystem services linked to the restoration of riparian forests and the aquatic environment	\$1,110,000
2. Combating wildfires through adaptive management	2.1. Pilot community fire brigades in three vulnerable communities 2.2. Construction of elevated water storage tanks 2.3. Build national capacity to implement a wildfire management strategy 2.4. Updated Wildland fire management policy and strategy	Enhancing the ability of vulnerable communities to be first responders to fire incidents  Improved wildfire management for forests and grasslands across Belize	\$1,100,000
3. Creating Opportunities to support Alternative livelihoods	3.1. Demonstration plots for transformative food productions systems 3.2. Identify and promote nature-based business opportunities 3.3. Provide training and business coaching skills for the establishment of functional small sustainable businesses 3.4. Increase awareness and conduct training in food production system and nature-based alternative livelihoods 3.5. Conduct market assessments	Increased number of climate-smart food production and nature-based livelihood  Increase livelihood opportunities for communities  Increased number of persons trained to successfully operate a nature-based business	\$1,302,500
4. Building National Capacity to access adaption finance	4.1. Establish a Technical Assistance Program to strengthen CSO capacity for project development and implementation 4.2. Develop and pilot an awareness raising and knowledge sharing program 4.3. Build capacity on the	Increased technical capacity to better access climate finance  Increase national awareness of climate change impacts and adaptive measures	\$270,000

	utilization of earth observation data to monitor adaptation finance impacts at the local level		
5. Community Disaster Risk Management	5.1. Assess drainage issues following local hydrological flooding events 5.2. Construct drainage system in areas prone to flooding	Decreased risk of post-disaster impacts - flooding	\$650,000
6. Project/Programme Execution cost			67,500
7. Total Project/Programme Cost			4,500,000
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			500,000
<b>Amount of Financing Requested</b>			<b>\$5 million</b>

### Projected Calendar:

*Indicate the dates of the following milestones for the proposed project/programme*

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2022
Mid-term Review (if planned)	September 2024
Project/Programme Closing	January 2026
Terminal Evaluation	June 2026



## PART II: PROJECT / PROGRAMME JUSTIFICATION

- A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. Project components should clearly articulate the characteristic of the EDA model to be followed and provide a clear description of practical locally lead adaptation solutions to funnel funding to vulnerable communities impacted by adverse climate impacts.**

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 will be done through locally lead action involving a multitude of communities and national entities under a Call for Proposal to be launched by the Protected Areas Conservation Trust (PACT). The latter enables communities and local organizations the opportunity to access crucial climate finance necessary for building resilience based on identified needs. These communities and local organization would be disenfranchised under traditional methods of accessing climate finance due to their limiting technical and financial capacity to engaged Funds. The development of this concept note was initiated by the identification of key climate change issues and barriers that are evident in communities, which have been noted by local communities and organizations. Hence the process will proceed with these entities and be expanded during the implementation of the EDA Grant.

Component One, ***Safeguarding Forest and Water Resources through strategic protection and restoration*** focuses on improving the ecological integrity of the watershed by addressing issues related to the deterioration of water quality linked to the characteristic use and climate change impacts to the watersheds. Two rivers pre-identified for potential intervention include the Mopan and Macal Rivers which constitute one of the most densely populated watersheds in the country, 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 national action other water bodies can also be identified for interventions under the EDA. Such initiatives would be managed through collaborative efforts of numerous entities such as the National Biodiversity Office (NBIO), National Hydrological Service, Department of Environment, Forest Department and local municipalities. Local municipalities will work closely with the regulatory agencies to identify adaptation actions needed to improve water quality and protect forest and water resources. This enables the communities to lead national action by working with key entities to identify problem areas and championing the need for immediate interventions to address impacts. These will be integrated into proposals submitted to PACT under the EDA Grant. Activities to be targeted under this Component include, but are not limited to:

- i. Assessing water quality of the selected River tributaries inclusive of the Mopan and Macal Rivers
- ii. Assessing the impact of landuse change on micro and macro invertebrates' populations within selected rivers
- iii. Development and implementation of water quality restoration strategies
- iv. Development and implementation a riparian forest restoration program

These activities will enable decision makers and local communities to make informed decisions regarding the protection of the watershed for the long-term security of water resources. The project can also further establish networks that can be used to monitor the impacts of climate change and anthropogenic activities within selected rivers inclusive of the Mopan and Macal.

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 the Selva Maya Project, fires still pose a serious threat to national ecosystems. The growing threat of climate change has resulted in extended periods of drought and adjustments to Belize's wet and dry seasons, making it increasingly difficult for agencies to address fire threats. Forest and grassland fires are increasingly difficult to manage in remote areas of the country that are not easily accessible by the National Fire Service (NFS). This has resulted in the need to adequately equip all national organizations, including Protected Areas co-managers, to manage the various aspects of wildfire management for the preservation of vital ecosystems outside of urban communities. 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:

- i. The creation of a national strategy to combat wildfire,
- ii. Expanding coverage of fire towers within the BNPAS
- iii. Training and equipping fire fighters working within the BNPAS
- iv. Enhancing the operational network of wildfire management agencies

In urban areas, Belize's NFS has been established as the traditional 'urban firefighting' department, focusing on addressing fires in the towns, villages and cities in Belize. Hence, the main fire stations of the country being situated in more urban areas with the exception of Independence and Ladyville Villages, which possess relatively large populations in comparison to the traditional classified villages. Over the past ten years, the NFS has noted that responses to fires, about 85%, are from rural areas of the country and the outlying areas of the towns and cities due to threats from wildfires. This notable increase in fire responses originating in these areas is due to the continuous expansion of urban areas just outside the towns and cities. The problem is also exacerbated by longer dry seasons creating larger fuel loads resulting in wildfires in these areas. The project aims to address the above issue via the expansion of the NFS network to three vulnerable rural communities, which threatened regularly by wildfires.

Activities to be targeted under this Component include, but are not limited to:

- i. Establishing pilot community fire brigades in pilot communities to act as first responders to wildfire management inclusive of Hattieville, Crooked Tree and Sarteneja Village
- ii. Training of first responders
- iii. Procuring equipment for pilot communities (specialized vehicle, firefighting equipment)
- iv. Constructing elevated water storage tanks for wildfire management

Given the variation of dynamics within the three target communities identified at this time, there is the need for modified actions to address the firefighting needs of each community. The NFS through its work with the target communities, will identify characteristics and devise site-specific strategies for wildfire management. These will be devised in consultation with local communities, allowing them to be integral 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 in this venture.

Component Three, **Creating Opportunities to support Alternative livelihoods**, aims to provide national communities traditionally dependent on natural resources with a varied source of income that contributes to the sustainable utilization of natural resources. Traditional practices such as unsustainable agricultural practices include traditional slash-and-burn cropping systems, arbitrary use of chemicals (herbicides and pesticides), and the planting of crops near rivers or on hillsides, which results in increased soil erosion, decrease water quality and have reduced functionality of local ecosystems. These 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 resulting in added pressure from communities to forest landscapes leading to an alarming reduction in biodiversity and ecosystem functionality. If the threat and resulting action are not addressed, the future of terrestrial ecosystems inclusive of the forests within Belize and the sustainability of livelihoods in the surrounding communities will be negatively impacted. Communities experience several barriers in addressing livelihood issues. 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
- iv. Increase awareness and conduct training in food production system and nature-based alternative livelihoods

Under Component Three, entities will work with selected communities to identify crops to grow under the transformative food productions systems and nature-based alternative livelihoods. This enables the entity to build on the strengths of local communities and devise site-specific solutions that are beneficial to target communities. The training will likewise be modified to address the needs of target communities. Communities will be the direct recipients of financing and adaptation benefits through the collaborative approve the entities envision for this Component. This will be captured during the preparation of concepts during PACT's Call for Proposal.

Component Four, **Building National Capacity to Access Adaption Finance**, intends to address the national need of limited technical capacity to access and implement climate finance projects in the country. The need for added capacity building initiatives has become increasingly evident in the past 4 years through the actions of entities accredited to multilateral funding agencies. Many national entities have limited experience in developing projects/programs that have a climate-adaptive focus and lack the technical expertise to effectively analyze and integrate climate data into projects. Under this project targeted capacity building support will equip national institutions and community organizations with the skillset and support need to develop and implement ecosystem-based adaptation projects. By building institutional capacity an enabling environment will be created which in turn empowers organizations and communities. Thus, enabling many entities, especially NGOs and community-based organizations, to engage donors and sponsors in accessing finance for adaptation activities

Activities under this Component would extend to the:

- i. Establishment of a Technical Assistance Program to strengthen CSO capacity for project development and implementation
- ii. Development and piloting of an awareness raising and knowledge sharing program
- iii. Build capacity on the utilization of earth observation data to monitor adaptation finance impacts at the local level

Component Five, **Community Disaster Risk Management**, aims to address flooding in communities that results

from intense periods of rain and post-natural disasters such as Hurricanes. Many low-lying communities in the coastal areas of Belize lack proper drainage systems that would enable rising flood waters to recede efficiently and quickly in communities. In communities where drainage systems are virtually non-existent the issue of flooding poses additional threats to infrastructure and human health post-disaster. These areas are plagued by mosquitoes that breed in stagnant waters, and spread vector borne illnesses such as malaria and dengue. This Component will require the action of local municipalities, community members and the District Coordinators from the National Emergency Management Organization (NEMO). Communities have a history of working with the District Coordinators for the implementation of pre and post-emergency action to safeguard lives. This initiative 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 areas. The installation of proper drainage system in the priority areas enable communities to protect infrastructure and also reduce the incidents of vector-borne illness that threaten human health.

Key activities to be targeted under this Component include:

- i. Assess flooding patterns and devise proper drainage plans in local communities
- ii. Procure equipment for drainage system creation and maintenance
- iii. Construction of drainage systems in target communities

**B. Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

### ***Economic Benefits***

The protection of water resources will have economic benefits for farmers that utilize water resources for their agricultural ventures. Given uncertainties caused by drought, the securing of alternative water sources for food and livestock production will ensure that the country continues to benefit from the growth of the Agriculture Sector. Traditional small-scale and mechanized large-scale agriculture is considered a major source of livelihood within the Belize River Watershed. Approximately 27% of the middle reaches of the watershed is classified as Agriculture Frontier – Traditional Livestock with and other 6% being classified as Agriculture Frontier – Mechanized Livestock. Thereby the protection of water resources will have impactful economic benefits to framers that utilize the area. Water security is also key to the survival of communities. In the absence of potable water from local sources the cost of water in communities will increase. The proposed actions of the project, to protect water resources by ensuring water quality, minimize the need for additional financing to be sought for the provision of potable water in communities for the development of infrastructure which would have financial implications to the communities.

Proper wildfire management in country will also reduce the loss of food and livestock resulting in benefits to farmers. By increasing the country's ability to tackle wildfires, communities will have reduced losses to food stocks and infrastructure caused by uncontrolled wildfires. Similarly, the construction of proper drainage systems will minimize losses to infrastructure in low-lying areas, inclusive of private and public property. This will reduce the need for financing to address damages that result from floods that last an extended period of time, due to the lack of adequate drainage structure.

### ***Social Benefits***

The project interventions will protect local communities and reduce their vulnerabilities to the impacts of climate change thereby enabling communities to benefit from regulating, provisioning and protection services on which they are heavily dependent. Riparian restoration activities have the added benefit of maintaining the integrity of riverbanks thereby reducing loss of property linked to erosion. Restoration activities will also improve the functionality of the watersheds during periods of heavy rains and drought.

Similarly improving the quality of water within the ecosystems will have a similar effect on local communities, by providing all communities in the watershed with a reliable source of potable water. In the absence of interventions to improve water quality communities can rapidly degrade the integrity of water resources, threaten ground water aquifers and ultimately lose access to a reliable water source, whose abundance is already threatened by climate change given changes in rainfall patterns and increased periods of drought.

The project will create livelihood opportunities within many communities across the country in climate vulnerable areas. The creation of alternative sources of livelihood will provide community members with an additional secure income generating avenue that also promotes the sustainable utilization and protection of natural resources. It will provide training and coaching in identifying, establishing and developing businesses that produce sustainable forest or farm-based products and marketing such products to the local market. The project will have a particular focus on supporting the livelihoods of women and youth by examining opportunities along the value chain of locally produced products - products that will support landscape regeneration.

Interventions to decrease flooding have the added value of protecting human health in target communities. Improved infrastructure also enables communities to protect infrastructure thereby decreasing the time, effort and financial implications that result from large scale flooding events.

### ***Environmental Benefits***

The project will have substantive benefits to the ecosystems and services in key areas of the country. Interventions in the Belize River Watershed will result in the restoration of ecological integrity and functioning of the watershed, resulting in the increase adaptive capacity of the ecosystem. By monitoring and resorting water quality, flora and fauna in the ecosystems can be increased resulting in biodiversity gains. The prevention of future deterioration of the watershed will be prevented through proactive management by key entities at the national and local levels. The reduction of wildfire protects the natural ecosystem and maintains ecological functionality while also ensuring the maintenance of biological diversity in areas.

Actions to promote climate-friendly food production systems and alternative livelihoods minimize the impact of anthropogenic actions in the natural environment. The minimization of destructive practices and utilization of harmful chemicals tied to traditional farming practices, has detrimental impacts on ecosystems and biodiversity. Hence the proposed actions under this project will enhance the protection of the natural ecosystems and biodiversity by proposing alternatives that are beneficial to humans and the natural ecosystems. Project design and implementation will take into consideration the Environmental and Social Policy of the Fund. Safeguards to minimize potential impact will be instituted, these will be further elaborated in the fully developed project proposal and in individual proposals in line with PACT's Environmental, Social and Gender Management Framework.

### **C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.**



The cost effectiveness of the project is demonstrated through the inclusion of activities that build on existing baseline assessments and that create an enabling framework for the replication and/or scaling up of actions in other areas of the country. The project will also promote the creation of synergies with the projects/programs, detailed in section F, to avoid duplication of efforts and maximize the efficiency of project funding. The proposed interventions under the project will also be incorporated into the operational mandates of the executing entities, thereby ensuring the long-term benefits beyond the project's lifecycle.

For Component One this is evident in the creation of long-term implementation strategies that will be used to guide restoration and monitoring interventions within the target rivers, such as the Mopan and Macal Rivers, as a pilot. Through the restoration of riparian forests and securing of water resources, the project's financial investment will support the longevity of communities within the watershed for years to come, despite the impending threats posed by climate change. The benefits of the interventions far outweigh the one-off investment. The project actions will also be used to substantiate the need for improved management in other watersheds across the country, functioning as the operational framework for replication. The budget for activities under this Component is estimated at USD \$1,110,000.

Cost-effectiveness of Component Two is linked to small scale infrastructure as well as the expansion and strengthening of networks that can address threats posed by wildfires. By building the capacity and working relationships of NGOs and local communities efficient firefighting activities can be carried out long-term at a decreased cost to the NFS. Decreasing the high costs of transportation and human resources for traditional fire management activities. NGO's and communities fire brigades will be provided with specialized training and equipment, thus enabling successful implementation of wildfire management strategies and plans based on established protocols and best practices well beyond the project life cycle. Extensive training will be required for local communities while training for NGO's will build on the extensive training already provided under projects such as the Key Biodiversity Areas Projects and through smaller projects within the BNPAS. The budget for this Component is USD \$1,100,000.

Component Three's cost effectiveness is seen in the establishment of transformative agricultural plots and the creation of alternative livelihoods that align with the availability of natural resources and long-term functionality of natural ecosystems. By creating these opportunities, the project reduces the impact on the ecosystems and also decreases the destruction to the natural environment, especially forest and water systems thereby negating the need for extensive ecosystem rehabilitation and restoration in the future. Community members will be equipped with the skills to manage and successfully operate, and if desired, expand their business. Training will thus enable the communities to continuously generate income from sustainable renewable resources, reducing the need for future investment or alternative destructive income sources. The budget for this Component is USD \$1,302,500.

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/programs. This decreased the need for financing dedicated to the hiring of experts to develop projects. These programs provide continuous support to local organizations well beyond the lifespan of the project. The budget for this Component is USD \$270,000.

The actions proposed under Component Five promote the continued protection of communities from the impacts of flooding, which have been amplified under changing climatic factors. The construction of proper systems within

target communities decreases the risk to human lives and also protects national infrastructure. It decreases the need for added reactive measures post natural disaster which comes at a cost to a nation, with an already strained national budget. These activities will also enable the local municipalities to maintain the drainage systems proposed. The budget for this Component is USD \$650,000.

The overlapping interventions proposed in this project enabled a multisector approach to Project design, resulting in strong synergies among interventions. Synergies may also result in the pooling of resources for the implementation of a comprehensive sub-project, that addresses national needs for various sectors equally. At this stage the synergies between components have provided a strong basis for the inclusion of activities within the proposal.

**D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.**

All proposed Components are strategically linked to national and sectoral development policies in the country. The proposed project is centered on the implementation of Belize's National Climate Change Policy, Strategy and Action Plan (NCCPSAP) which aims to guide the short, medium and long-term processes of adaptation and mitigation of Climate Change and to ensure the mainstreaming and integration of Climate Change considerations at all levels of the development planning and operational processes of governance (NCCPSAP, 2015).

Interventions for restoration and protection of forested ecosystems are linked to the needs identified in Belize's Nationally Determined Contribution (NDC), Forest Policy and the National Biodiversity Strategy and Action Plan (NBSAP). The latter documents have called for the continued protection of key ecosystems in the country and their associated ecosystem services to address the country's climate adaptive capacity. Proposed sub-project interventions contribute to the achievement of the goals set within these documents such as:

- maintaining the integrity of forest ecosystems and increasing reforestation (NDC, 2017)
- enhancing the protection of water catchments and the implementation of Integrated Water Resource Management (IWRM) program in watersheds (NDC, 2017)
- Sustainable management and improved resiliency of key ecosystems (NBSAP, 2016)
- Restoration of 30% of degraded ecosystems to maintain ecosystems and ecosystem services (NBSAP, 2016)

In relation to the Forest Policy (FP), the proposed project activities provide guidance for actions to be taken to address the direct and indirect threats posed by global climate change on forests and forest-dependent communities in order to reduce their vulnerability, increase their resilience and adapt to climate change. The actions envisioned under this project will enhance the capacity of communities in the buffer zones of the Protected Areas to adapt to climate change and build their resiliency to adapt.

The Project also contributes to the achievement of Sustainable Development Goals (SDGs) 6 -Clean Water and Sanitation, 5 - Gender Equality, 13 – Climate Action and 15 – Life on Land.

**E. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.**

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 water quality parameters established by the DOE will also be used as a guiding marker for determining the health of the watershed and rivers. Established ecological parameters for flora and fauna will also be consulted for national assessments. The procurement of equipment for the sub-projects will also ensure adherence to environmental standards to control pollution as established by the DOE.

As necessary, the project will obtain all necessary permits for specific activities requested by the different sector authorities for the execution of the sub-projects. All activities will adhere to the highest standards of environmental management in order to avoid negative impacts on ecosystems, biodiversity and people's health. The project will adhere to the Environmental and Social Policy and devise mechanisms to be in full compliance with all human rights including those of marginalizes and vulnerable groups and indigenous peoples.

The project will support national regulations regarding the safe and restricted use of pesticides (coordinated by the Pesticides Control Board) and local regulations regarding the use of forest resources. At the development of the full project proposal stage, the environmental and social risks will be identified and assessed, measures will be outlined to mitigate such risks and systems will be developed to monitor and report on such risks, during the project's implementation. Entities will be required to elaborate on the sub-projects adherence to national and international technical standards during the submission of proposals under PACT's EDA Call for Proposals.

**F. Describe if there is duplication of project / programme with other funding sources, if any.**

The proposed interventions under the Components will not duplicate any projects or activities. All proposed interventions under the project are scaling up of national initiatives, key actions recommended by previous projects and actions to create further synergies aimed at building the country's capacity to address climate impacts and build resiliency. These synergies extend to:

The 'Protection and Sustainable use of the Selva Maya' Project (2011-2021), Selva Maya for short, is financed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. In Belize, the project has been implemented in collaboration with Belize's Forest Department. The project has developed and piloted measures to protect and sustainably use biodiversity and natural resources in the Selva Maya tri-national forest taking into consideration climate change impacts to the system. Activities under the project extended to the promotion of environmentally friendly income generating programs such as sustainable agroecological and silvopastoral practices (beekeeping and vegetable production), creation of value-added products, development of and implement climate-smart management plans for the BNPAS, piloting of participatory community land use plans, and improved environmental governance by strengthening national institutions. The proposed sub-projects would further advance the actions for wildfire management, securing ecosystems within the BNPAS and building the capacity of relevant agencies. Sub-projects will also focus on the promotion of sustainable agricultural practices creating alternative livelihood sources for communities by ensuring the incorporation of climate-smart measures that boost production. This project is also promoting the Integrated Selva Maya Strategy at the trinational level so this project will be able to work hand in hand with the Strengthening Project to ensure that the activities implemented under this project receives the visibility at the trinational level as well.

The project will also build on the preliminary assessment completed under the Forest Landscape Restoration (FLR) and Restoration Opportunities Assessment Methodology (ROAM) Project being implemented by the Belize Forest Department. The project has numerous financial contributors such as 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. Priority areas for restoration interventions have also been identified under the project. It is the goal of this project to implement the functional restoration activities within the nationally prioritized sites to protect water resources, biodiversity and ecological functionality. In areas not prioritized, restoration activities will be conducted in adherence to the standards established under the restoration initiative.

**G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.**

As the proposed project intends to build on frameworks already established by numerous initiatives in the country, the learning and knowledge management component of the project will be based on the continuous collaboration between key entities to ensure sustainability. A key mechanism linked to the success of all sub-projects involves the establishment of technical working groups (TWG), which function as knowledge dissemination centers for all relevant sectors in the country. The TWG, will not only provide technical support to the achievement of project objectives but will also function as liaisons for the infiltration of information related to project results, best practices and lessons learnt into their respective sectors. The monitoring and evaluation framework will also enable the periodic capturing of lessons for the readjustment of interventions to ensure a successful outcome.

Additionally, the project will document and share with the wider population the successes and lessons learnt via the awareness raising, community outreach and training components of each sub-project. For the latter, the subproject will devise and implement awareness campaigns, specifically tailored to the different communities and user groups. As the success and the sustainability of interventions within sub-projects are intrinsically tied to the incorporation of key project activities into the daily operation of communities, there is the need to educate and actively involve key stakeholders from all target communities in the project interventions. This will keep communities abreast of activities and ensure active participation, transparency and knowledge sharing.

The approach to the capacity building will foster sustainable knowledge transfer targeting existing local capacities through the “learning by doing” process, including tailored guidance materials, methodological approaches and the use of different tools. Persons will gain knowledge from experience. Learning is thus a vital component of knowledge management and its ultimate end. Collective learning comes from participating in the social processes of collaboration, sharing knowledge, and building on one another’s ideas. The experiences will be systematized in order to pass knowledge assets between people or systems.

**H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

National stakeholders with a vested interest in building the adaptive capacity of the country were consulted during the development of the project’s concept note. As the country’s climatic needs vary across sectors the PACT employed a consultative process to identify urgent climate adaptive needs within the natural resources management realm of the country. The climate adaptive needs of stakeholders from the BNPAS, Association of Protected Areas Managers (APAMO), National Biodiversity Office (NBIO), Department of Environment (DOE), National Emergency Management Organization (NEMO), Belize National Fire Service (NFS), National Hydrological Service (NHS) within the Ministry of Natural Resources, Inter-America Institute for Cooperation on

Agriculture (IICA) were taken into consideration for the development of the proposed project.

Throughout the development of the project stakeholders have been informed and kept abreast of the development process. As the activities are directed towards national stakeholders, the proposed project aims to further expand the scope, by conducting extensive stakeholder consultations and continue the work which has commenced with all relevant stakeholders' communities, including indigenous communities, during the development of the full project proposal. Consultations will take into consideration the Social and Gender policy of the Fund and PACT.

Additionally, the proposed project was designed to take into consideration the principles of participatory governance, which enables communities and national stakeholders to be actively engage in the decision-making process. The project will adopt participatory planning, budgeting, action and M&E systems. The participatory governance approach will positively contribute towards beneficiary ownership, local capacity enhancement, accountability and transparency, which is the cornerstone of the EDA Grant. The project will ensure appropriate local engagement platforms are in place for all the local stakeholders to actively engage in the decision-making process. A strong community and local stakeholder mobilization process will be carried out from the inception of the project to ensure all local stakeholders including the target communities are brought in within the overall participatory governance model. The below diagram depicts the overall participatory governance model that will be adopted by the project.

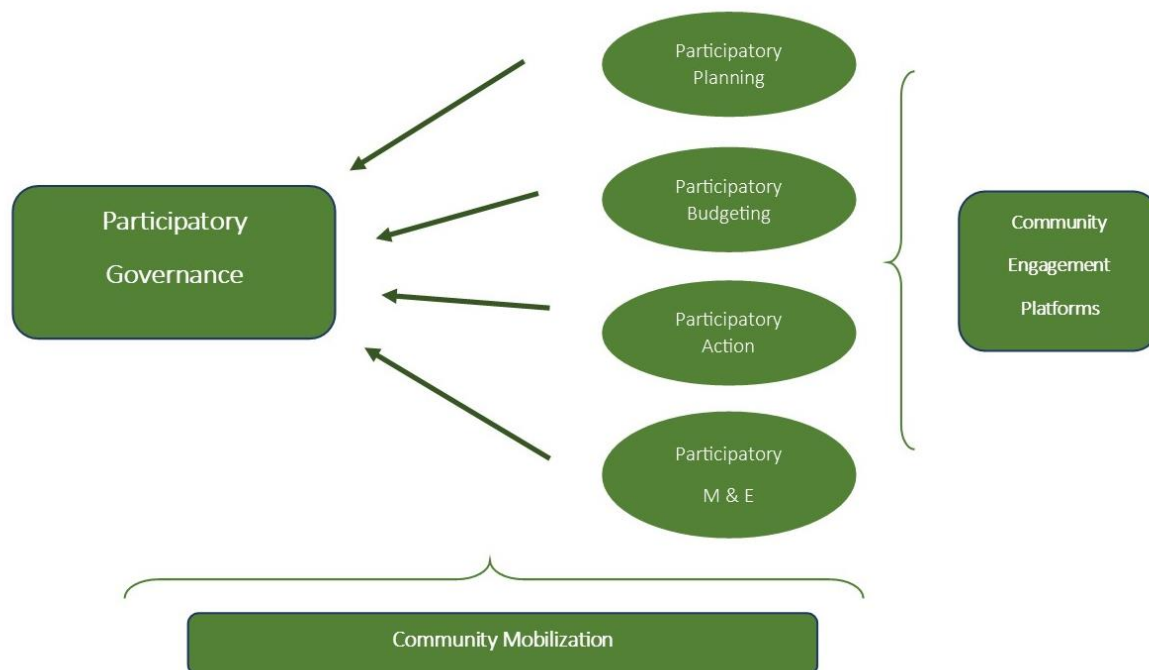


Figure 6: Diagram of Participatory Governance

**I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.**

Funding will further enable the country to implement adaptation recommendations and achieve climate resiliency. There have been numerous national interventions that have contributed to the adaptation of the country, however



additional financing is needed to carry out activities in key areas void of interventions under other projects. The aim of this project is to scale up proven actions in new communities and ecosystems that are subject to the visible impacts of climate change. Exacerbated climate impacts could cripple a community's ability to survive within a given ecosystem void of appropriate adaptive measures.

The project will also strengthen the capacity of the target communities to adapt to climate change by enhancing their ability to sustainably manage their landscapes in a way that enhances their livelihoods - both economically and environmentally. The incorporation of environmental management and nature-based solutions to combating climate change, is key to Belize's resiliency. The country's heavy dependence on natural resources and the core functioning of its numerous ecosystems has been recognized and integrated into national efforts to adapt. Hence these actions in target communities enable the country to evolve from the business-as-usual utilization of natural resources to a responsive environmental and climate conscious management approach.

The project will train and coach community members in sustainable/regenerative methods of farming that will not only increase productivity but also provide additional business opportunities along the value chains, alternative livelihoods. Food security is threatened by climate change given projected changes in rainfall, temperature and increase in storms frequency and intensity. It is important for communities to be able to provide for themselves and transition to mechanisms and systems that are resistant to the negative impacts of climate change. For this reason, there is the need to promote the integration of climate smart systems within communities to ensure food security and an alternative source of income.

The threats of climate change, specifically change in rainfall and temperature leading to increased incidents of drought, including hydrological droughts, and storms that destroy forests and add to fuel load, results in another disaster that threatens human lives and livelihoods - wildfires. Wildfires around the country have increased in magnitude over the past years linked to climatic changes. To protect human health and ensure that populations are able to safeguard infrastructure, forests and crops, intervention to increase the community's ability to extinguish wildfires is a priority. On the opposite end, the excess of water linked to the increased intensity of storms, also threatens communities via flooding. The extended periods of rain restrict access to homes, causes damage to infrastructure, business and crops and poses a threat to human health by serving as breeding grounds for vector-borne diseases. Immediate action is needed in communities to minimize the impact of flooding in low-lying areas. These interventions will also protect human life and minimize the negative impact of climate change on target communities.

At the national level there is the need to further garner stakeholder support and appreciation at all levels for the implementation of measures that will build the country's adaptive capacity. A paradigm shift is needed to actively integrate climate actions in the daily operations of sectors and communities. Cross-sectoral policies and management frameworks are needed to ensure the sustainability and success of interventions. The technical assistance program, proposed under Component 4 will training of entities to access climate finance, thus enabling entities to successfully access and implement future climate projects building the country's resilience. As these small organizations are currently limited in a financial and technical capacity, actions such as the latter will allow CSOs to be at the forefront of climate-adaptive action. Support at the community level is critical to Belize.

**J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.**

As the proposed interventions are linked to the national mandates of the executing entities (EEs), the long-term

sustainability of the activities within the Components will be achieved via the seamless integration of activities into the daily operations of the EEs. The components of the project are also embedded as national adaptation priorities and have been identified as necessary adaptive strategies/measures based on previous assessments. Long term implementation and monitoring will be managed by the key partners with the aid of participating community groups, such as the governing bodies within municipalities and operational NGOs, that will be strengthened under the capacity building activities of Component 4.

The long-term protection and securing of water resources of the Belize River Watershed is tied to restoration interventions. The sustainability of the Component interventions is linked to the continuous management and monitoring of the watersheds biotic and abiotic factors, which will be managed by local communities, as well as the Forest Department, Department of Environment and National Biodiversity Office (NBIO). The shift in the communities' utilization of the water resources will be achieved via the shift in perceptions linked to the awareness raising activities. The development of strategies will guide the long-term restoration actions of the relevant authorities and will enable the replication of interventions in other watersheds with similar characteristics.

As it relates to fire management, the extensive training and improved institutional capacity (inclusive of the provision of equipment) will enable all organizations to tackle fire management in their respective areas. The establishment of a fire network will enable organizations to cross collaborate and share experiences, which will, in turn, enable organizations to reformulate fire management strategies based on proven best practices. These actions are building on other measures implemented in the country under other projects such as the Key Biodiversity Areas (KBA) Project and Selva Maya.

The long-term sustainability of the project will also be ensured by work carried out in conjunction with established NGOs and cooperatives actively engaged with the target communities. These entities have established significant experience in the development of the target communities, but also, through this project, will receive additional capacity building so they can provide enhanced support during and after the life of the project. Thus, ensuring the long-term sustainability of project activities.

**K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.**

The proposed Components aim to be fully aligned with the Environmental and Social Policy (ESP) and the Gender Policy of the Adaptation Fund. The initial screening detailed below addresses the safeguard areas of the ESP, identifying any potential environmental and social risks and impact that proposed project components may pose. In line with the accreditation status of the Fund, the proposed project has been categorized as Category A, based on potential environmental and social impacts.

The design and implementation of all Components (sub-projects) will ensure adherence to all environmental, social and gender requirements of the Fund and national legislations. Similarly, the design and implementation phase will ensure the representation and consultation of all beneficiary groups including indigenous peoples, marginalized and vulnerable groups. The proposed Components aim to enhance and protect the natural ecosystems of the country, thus ensuring the provision of ecosystem services, hence the project will, in turn, produce positive economic and social impacts to the target communities.

During the Call for Proposal, the PACT will ensure that all sub-projects are rigorously screened to be in

compliance with the entity's Environmental, Social and Gender Management Framework to minimize risk during project planning and implementation.

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	<p>Low/No Risk</p> <p>The development of the final project document and the implementation of activities under the proposed sub-projects will ensure compliance with all relevant national legislations and international laws.</p>
<i>Access and Equity</i>	X	<p>Low/No Risk</p> <p>The proposed sub-projects intend to increase communities access to basic human services such as water and sanitation during climate uncertainties. The proposed sub-projects will in no way compromise the access of communities to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions and land rights.</p>
<i>Marginalized and Vulnerable Groups</i>	X	<p>Low/No Risk</p> <p>The proposed project will not impose any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.</p> <p>The proposed sub-projects are expected to improve the ability of all groups including marginalized and vulnerable groups to adapt to the adverse effects of climate change by improving the ability of communities to access water, reduce impacts to human health caused by wildfires and floods.</p> <p>During the implementation of sub-projects, the active involvement of stakeholder communities will guide the restructuring of proposed measures to fully address any unidentified needs of marginalized and vulnerable groups.</p>
<i>Human Rights</i>	X	<p>Low/No Risk</p> <p>All proposed sub-projects will respect and adhere to all relevant national legislation and international conventions on human rights including access to basic needs such as water.</p>
<i>Gender Equality and Women's Empowerment</i>	X	<p>Low/No Risk</p> <p>The proposed sub-projects will incorporate the needs of men and women equally for the development of interventions and address issues related to gender and women's empowerment linked to these climate interventions. All participatory and consultative processes will ensure the representation of women groups from all communities, gender experts and NGOs. Gender-disaggregated data will be analyzed for inclusion.</p>

		A further assessment of gender aspects related to the project interventions will be carried out during the full proposal development phase.
<i>Core Labour Rights</i>	X	Low/No Risk The proposed project will adhere to core labour laws and the rights of all parties.
<i>Indigenous Peoples</i>	X	Low Risk The design of all Components and the proposed sub-projects will ensure that local communities and indigenous peoples are consulted and will benefit from interventions. Extensive stakeholder consultations will form the basis for the development of all sub-project components. Hence indigenous peoples will be consulted during project development and implementation phases respecting their needs.
<i>Involuntary Resettlement</i>	X	Low/No Risk The Components for the proposed project do not include involuntary resettlement. It is the aim of the sub-projects to secure ecosystems and their corresponding services thus securing communities.
<i>Protection of Natural Habitats</i>	X	Low/No Risk The sub-project interventions are all based on the protection of natural resources and ecosystem services. The interventions are aimed at improving the ecological functionality of vital ecosystems such as forests, grasslands and freshwater bodies. Hence the proposed intervention will not threaten, degrade or destroy and natural habitats being targeted.
<i>Conservation of Biological Diversity</i>	X	Low/No Risk The sub-project interventions will promote the conservation of biological diversity and natural habitats, through the restoration and protection of the riparian forest, benthic ecosystems, broadleaved forests and savannah/grasslands.
<i>Climate Change</i>	X	Low/No Risk The proposed project will contribute to Belize's climate change adaptation efforts. The proposed project, in no way, is intended to increase greenhouse gas emissions or contribute to any drivers of climate change.
<i>Pollution Prevention and Resource Efficiency</i>	X	Low/No Risk The proposed project will ensure the maximization of energy efficiency, strive to avoid any potential pollution and minimize the production of waste materials.
<i>Public Health</i>	X	Low/No Risk The proposed project contributes to the enhancement of public health by securing water resources for communities along waterbodies including the Mopan and Macal Rivers. Through the wildfire management component, the project will also reduce the threats posed to human health caused by smoke inhalation during extended periods of wildfire. The proposed project will in no way compromise public health in selected communities.

		<p>Actions to minimize the impacts of flooding will also minimize the prevalence of vector-borne illnesses in communities by allowing flood waters to recede and decrease breeding grounds for vectors.</p>
<i>Physical and Cultural Heritage</i>	X	<p>Low/No Risk</p> <p>The proposed project poses no threat to physical and cultural heritage in any selected communities being targeted.</p>
<i>Lands and Soil Conservation</i>	X	<p>Low/No Risk</p> <p>The proposed project intends to conserve natural lands and soil via the protection of key ecosystems that are threatened by destructive practices linked to unsustainable traditional agricultural practices.</p>

**PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY**

**A. Record of endorsement on behalf of the government<sup>2</sup>** *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

 Mr. Joseph Waight Financial Secretary Ministry of Finance, Economic Development and Investment 	Date: 19/7/2021
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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*

<p>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 inclusive of the Growth and Sustainable Development Strategy (GSDS) and the National Climate Change Policy Strategy and Action Plan (NCCPSAP) 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 and the Gender 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.</p>
<p> </p>

<sup>6</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.



*Nayari Diaz Perez*  
*Executive Director*  
*Protected Areas Conservation Trust (PACT)*

(Implementing Entity Coordinator)

Date: 15 July 2021

Tel. and email:  
 (501) 822-3637  
[ed@pactbelize.org](mailto:ed@pactbelize.org)

Project Contact Person: Denaie Swasey  
 Climate Change Technical Officer

Tel. And Email: (501) 822-3637  
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**GOVERNMENT OF BELIZE**  
*Ministry of Finance*  
*Belmopan, Belize*

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The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: [Secretariat@Adaptation-Fund.org](mailto:Secretariat@Adaptation-Fund.org)  
Fax: 202 522 3240/5

Dear Sir/Madam

**Endorsement Request for Adaptation Fund Innovation Grant and Enhanced Direct Access (EDA) Grant**

In my capacity as designated authority for the Adaptation Fund in Belize, I confirm that the national projects detailed below are in accordance with the government's national priorities in implementing adaptation activities to improve resiliency to climate change and disaster risk management.

Accordingly, I am pleased to endorse the following projects under the Adaptation Fund.

- *“Securing Water Resources through Solar energy and Innovative Adaptive Management”* under the Innovation Grant; and
- *“Building Community Resilience via Transformative Adaptation”* under the Enhanced Direct Access Grant.

Sincerely

  
**JOSEPH WAIGHT**  
Financial Secretary



- c. Chief Executive Officer, Ministry of Sustainable Development, Climate Change and Disaster Risk Management  
Executive Director, Protected Areas Conservation Trust (PACT)



**ADAPTATION FUND**

**Project Formulation Grant (PFG)**

Submission Date: 4<sup>th</sup> August 2021

Adaptation Fund Project ID:

Country/ies: **Belize**

Title of Project/Programme: **Building Community Resilience via Transformative Adaptation**

Type of IE (NIE/MIE): **National Implementing Entity**

Implementing Entity: **Protected Areas Conservation Trust**

Executing Entity/ies: **Protected Areas Conservation Trust**

**A. Project Preparation Timeframe**

Start date of PFG	<b>March 2022</b>
Completion date of PFG	<b>December 2022</b>


**B. Proposed Project Preparation Activities (\$)**

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
Development of Project Proposal	Project Proposal in alignment with AF criteria	20,750
Stakeholder Consultations	Stakeholder Consultation Report	7,000
Management Fee		2,250
Total Project Formulation Grant		30,000



**C. Implementing Entity**

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Mrs. Nayari Diaz-Perez		07/15/21	Denaie Swasey	(501) 822-3637	cc.techofficer@pactbelize.org

**D. Record of endorsement on behalf of the government**

Provide the name and position of the government official, Designated Authority of the Adaptation Fund, and indicate date of endorsement. The endorsement letter must be attached as an annex to the request.

  <p>Mr. Joseph Waight Financial Secretary Ministry of Finance, Economic Development and Investment</p>	<p>Date:</p> <p>19/7/2021</p>
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ADAPTATION FUND

**Request for Project Formulation Assistance to undertake special technical assessments**

Submission Date: 4<sup>th</sup> August 2021

Adaptation Fund Grant ID:

Country: **Belize**

Title of Project/Programme: **Building Community Resiliency via Transformative Adaptation**

Implementing Entity: **Protected Areas Conservation Trust**

Executing Entity/ies: **Protected Areas Conservation Trust**

**A. Timeframe of Activity**

Expected start date of activity	<b>March 2022</b>
Completion date of activity	<b>December 2022</b>

**B. Type of support requested**

Describe the technical assessment(s) the implementing entity will undertake to support the design and development of adaptation projects and programmes


Type of Technical Assessment requested*.	Duration (months)	Type/name of provider for the requested support <sup>1</sup>	Requested budget (USD)
Gender Assessment	5	Consulting Firm	9,500
Feasibility Study	5	Consulting Firm	9,000
Management Fee			\$1,500
<b>Total Grant Requested (USD)</b>			<b>\$20,000</b>

**\*Footnote: Technical assistance could include EIA, VA, technical studies, gender assessment etc.**

<sup>1</sup> Specify if it is an institution, consulting firm or individual consultant. When possible, provide the name of the institution, firm or individual identified or selected.



**C. Implementing Entity**

This request has been prepared in accordance with the Adaptation Fund Board's procedures

Head of Implementing Entity	Signature	Date (Month, day, year)	Implementing Entity Contact Person	Telephone	Email Address
Mrs. Nayari Diaz-Perez		07/15/21	Denaie Swasey	(501) 822-3637	cc.techofficer@pactbelize.org

**D. Record of endorsement on behalf of the government**

Provide the name and position of the government official, Designated Authority of the Adaptation Fund, and indicate date of endorsement. The endorsement letter must be attached as an annex to the request.

  <p>Mr. Joseph Waight Financial Secretary Ministry of Finance, Economic Development and Investment</p>	<p>Date:</p> <p>19/7/2021</p>
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## Annex 1: Alignment of Proposed Project Objectives/Outcomes with Adaptation Fund Results Framework

Project Objective(s) <sup>2</sup>	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Safeguarding Forest and Water Resources through strategic protection and restoration solutions	Number of watershed with improved management	<b>Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</b>	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	<b><u>\$1,110,000</u></b>
			3.2. Percentage of targeted population applying appropriate adaptation responses	
		<b>Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress</b>	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	
2. Combating wildfires through adaptive management	Number of communities with improved capacity to address wildfires Number of Protected Areas with improved capacity to address wildfires Number of infrastructures improved for wildfire management	<b>Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses</b>	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	<b><u>\$1,100,000</u></b>
			<b>Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</b>	
		3.2. Percentage of targeted population applying appropriate adaptation responses		

<sup>2</sup> The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

		<b>Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets</b>	4.1. Responsiveness of development sector services to evolving needs from changing and variable climate	
			4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
3. Creating Opportunities to support Alternative livelihoods	Number of adaptive food production systems established  Number of persons engaged in alternative livelihood programs	<b>Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress</b>	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	<b><u>\$1,302,500</u></b>
		<b>Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas</b>	6.1 Percentage of households and communities having more secure access to livelihood assets	
			6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
		<b>Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies</b>	8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level.	
4. Building National Capacity to access adaption finance	Number of persons with improved capacity to develop and implement climate finance projects/programs	<b>Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses</b>	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	<b><u>\$270,000</u></b>
5. Community Disaster Risk Management	Number of communities with improved drainage to minimize the impacts of flooding	<b>Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets</b>	4.1. Responsiveness of development sector services to evolving needs from changing and variable climate	<b><u>\$6500,000</u></b>



Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
			4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
<b>1.1.1. Improved water quality of Rivers</b>	Number of rivers with improved climate-adaptive management systems	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	<b>\$1,110,000</b>
<b>1.1.2. Enhanced ecosystem services linked to the restoration of riparian forests and aquatic fauna</b>	Percentage of riparian forests in rivers restored	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
<b>2.1.1. Enhancing the ability of vulnerable communities to be first responders to fire incidents</b>	Number of communities with increased capacity to address wildfires	Output 2.1: Strengthened capacity of national and sub-national centers and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	<b>\$1,100,000</b>
			2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	
	Number of community fire brigades established	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge	
			3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	

		Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)	
			4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	
2.1.2. Improved wildfire management for forests and grasslands across Belize	Number of NGOs, CBOs and Regulatory Agencies with increased capacity to address wildfires	Output 2.1: Strengthened capacity of national and sub-national centers and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	
			2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	
3.1.1. Increased number of climate smart food production systems	Number functional climate smart food production systems established	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	<b>\$1,302,500</b>
		Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	
			8.2. No. of key findings on effective, efficient adaptation practices, products and technologies generated	
3.1.2. Increase livelihood opportunities for communities	Number of persons with an alternative form of financial income	Output 6: Targeted individual and community livelihood strategies strengthened in relation to	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in	

Annex 5 to OPG Amended in October 2017

		climate change impacts, including variability	support of individual or community livelihood strategies	
<b>3.1.3. Increased number of persons trained to successfully operate a natural resource-based business</b>	Number of persons training to operate businesses	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	
<b>4.1.1. Increased technical capacity to better access climate finance</b>	Number of persons trained to access climate finance	Output 2.2: Increased readiness and capacity of national and sub-national entities to directly access and program adaptation finance	2.2.1 No. of targeted institutions benefitting from the direct access and enhanced direct access modality	<b>\$270,000</b>
<b>4.1.2. Increase national awareness of climate change impacts and adaptive measures</b>	Number of NGOs, CBOs and Regulatory Agencies with increased awareness of climate change	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	
<b>5.1.1. Decreased risk of post-disaster impact – flooding</b>	Number of communities with increased ability to recover post-disaster	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale) 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	<b>\$650,000</b>