ADAPTATION FUND

REGIONAL PROJECT PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project:	Building adaptive capacity to climate change through food security and nutrition actions in vulnerable Afro and indigenous communities in the Colombia-Ecuador border area
Countries:	Colombia and Ecuador
Thematic Focal Area:	Food security
Type of Implementing Entity:	Multilateral Implementing Entity (MIE)
Implementing Entity:	United Nations World Food Programme (WFP)
Executing Entities:	Grand Family Awá, the Network of Southern Pacific Community Councils (RECOMPAS), the Afro-Ecuadorian Confederation of Northern Esmeraldas (CANE)
Partners and Designated Authorities:	Ministry of Environment and Sustainable Development (Colombia) and Ministry of Environment (Ecuador)
Amount of Financing Requested:	14,000,000 USD

Project Background and Context:

Introduction

Climate variability and shocks exacerbate the fragile food security and nutrition status of vulnerable communities living in the Colombia-Ecuador border area. This region is highly vulnerable to the short- and longer-term impacts of climate change and climate variability, due to its geographical location and rugged topography. The Mira-Mataje and Guaitara-Carchi binational watersheds are located along the Colombia-Ecuador border and are shared by Afro-descendants and Awá populations (See Map 1). This binational territory was selected for the proposed project because populations in these two critical watersheds have been historically marginalized and affected by the prolonged conflict in Colombia, and are particularly affected by environmental degradation which is exacerbated by both short-term and longer-term climate threats. Both Afro-descendants and Awá populations suffer from high levels of food insecurity, micronutrient deficiencies, chronic malnutrition and unsatisfied basic needs, a situation made worse by climate variability and shocks.

The prioritized binational watersheds display a number of diverse ecosystems, from the Pacific coastal mangroves, to dry and tropical humid forests in the higher elevations, and finally cloud forests and scrublands in the high Andes. These ecosystems are sensitive to climate variability and small changes in temperature and water availability, and are considered more likely to face rapid alterations as a result of climate change.[1] Climate variability and shocks compound the extensive environmental degradation of the two watersheds, in particular the over-exploitation of forests, crops planted on lands with high erosion rates in particular illegal crops (coca), over-grazing in high altitude areas as well as decreasing access to water for consumption and crop production. In both binational watersheds, the population has expanded rapidly over the last thirty years, leaving many with limited access to basic services like healthcare and new technologies. An overreliance on extractive industries has led to enormous decrease in biodiversity and ecosystem service provision for Afro and Awá communities. Both losses continue to erode the vital ancestral knowledge that has, over the centuries, enabled the Awá and Afro-descendants to ensure their food security and nutrition, and manage their natural resources in harmony with mother earth.

The effects of climate change, including the increased frequency and intensity of extreme events, sea level rise and ocean acidification, combined with environmental degradation, exacerbate food insecurity and malnutrition by reducing access to productive assets and livelihoods. Thus, communities require sound planning and timely and accurate information to adapt to short and longer-term climate threats. Emerging climate threats intensify the challenges of reconstructing physical assets and the social fabric of affected indigenous and Afro communities, for example after natural disasters like the Ecuador earthquake in April 2016.

Faced with common threats, the governments of Colombia and Ecuador developed the Colombia-Ecuador Neighbor and Integration Commission and the Colombia-Ecuador Binational Border Commission (COMBIFRON). These commissions address climate change, environmental degradation, poverty reduction, food security and nutrition and reconciliation in the framework of peacebuilding along the 586 kilometer border.[2] The

[1] Nottingham, A. T., et al. 2015.

[2] These commissions are responsible for formulating, implementing and monitoring binational interest projects and border priority issues through the following binational technical committees: 1. Committee on Border Affairs 2. Infrastructure and Energy Committee 3. Environmental Affairs Committee 4. Committee on Economic and Business Affairs 5. Committee on Social and Cultural Affairs.

commissions target not only rural smallholder farmers but also the most vulnerable communities including Afro-descendants and Awá populations affected by climate shocks. Additionally, COMBIFRON decisions are binding to both countries.

The long-term increases in temperatures and precipitation in the tropical and dry forests are projected to reduce the fragile biodiversity of these ecosystems. As well, climate events, compounded by phenomena like the El Niño-Southern Oscillation (ENSO), will increase water scarcity and the frequency of acute crop losses in the short term and reduce food availability in the medium term. For example, the 2015-2016 El Niño phenomenon resulted in drought and forest fires, limiting water access and reducing crop yields in the border area and severely reducing incomes of communities in the binational watersheds. These negative impacts from reoccurring natural events are exacerbated by poor agriculture, land and fishing practices. In 2014 alone, over 4,000 ha were deforested in Nariño, Colombia; the majority converted for grazing and coca cultivation. Between 2000 and 2012 the key coastal mangrove buffer areas of Cayapas-Mataje and Mache Chindul in Ecuador lost a combined total of over 80,000 Ha of forest tree cover translating into 12.8 and 7.6 percent respectively of their forest canopies.[3] These impacts are already limiting crop diversity, agricultural productivity and the ability of fragile mangrove and forest ecosystems to absorb and recover from short-term shocks.

Climate change adaptation with the objective of improving food and nutrition security provides an opportunity to reduce vulnerabilities and thus damages from climatic variability, while enhancing the adaptive capacities of women and men living in vulnerable conditions. Such actions also support peace building in Colombia and stability in the border area.[4] The government of Colombia and the Revolutionary Armed Forces of Colombia (FARC) have resolved issues that will now lead to peace building after the 60-year conflict. Afro and Awá populations living on both sides of the border were disproportionately impacted by the conflict, through forced displacements, environmental damage, limited access to productive assets and land, and poor social services. A stable peace is vital for both Colombia, where the former conflict destabilized communities, and Ecuador, where displaced Colombians sought refuge and the conflict spilled over the border. Ecuador currently hosts 60,329 Colombian refugees and 233,049 Colombians seeking refugee status.[5]

The constitutions of Colombia and Ecuador recognize the rights of ethnic minorities to self-governance and protection of their cultural identity, specifically their traditional practices for natural resource management.[6] Afro-descendent and Awá populations in the region have governance structures and coordination mechanisms within their communities and at binational levels (See Annex 3). This project will build local capacities to execute food security and nutrition and climate change adaptation actions, while enhancing coordination between Afro and Awá governance structures and binational commissions.

As women are involved in field work and can act as agents of change, gender equality and the empowerment of women and girls is key for building resilience to disasters and shocks and addressing the drivers of conflict. In the targeted binational territory there is an urgent need to prevent violence against women and girls, ensure equitable access to social services and productive inputs and promote the equality of women in conflict resolution and decision-making processes. The increasing loss of forests and land degradation as well as

3 Anderson, 2014
[4] UNFCC 2014.
[5] 3 percent are in Carchí and 18 percent in Esmeraldas. Refugee Directory 2016.
[6] Constitution of Ecuador, *Article 57*. Constitution of Colombia, *Chapter XI*.

declining quality and quantity of freshwater undermines the food security and livelihoods of women and men, limiting family food consumption and their ability to access alternative livelihood resources and essential services. This can lead to tension and violence within the family and community.

This Adaptation Fund (AF) project will generate local climate change adaptation responses with a focus on both community-based adaptation (CbA) and ecosystem-based adaptation (EbA) approaches to promote food security and nutrition. The strengthening of Awá and Afro institutional and community capacities in a culturally and conflict-sensitive manner, with a focus on gender, are other important expected results of the project. Also, this project presents an important opportunity to integrate climate change adaptation in Afro and indigenous development plans (Life Plans and Local Governance Plans) and binational watershed management plans, contributing to local economic development in historically marginalized areas.[7]

Under the framework of the binational working groups for border integration and peace, the proposed project would innovatively strengthen food security and nutrition, livelihood resilience, and climate change adaptation. Supporting binational priorities and capacity building of local organizations, communities and local institutions, the proposed project will be executed by the Grand Family Awá, through its organizational structure that covers both Colombia and Ecuador, and Afro organizations including the Colombian based Network of Southern Pacific Community Councils (RECOMPAS) and its Ecuadorean affiliate the Afro-Ecuadorian Confederation of Northern Esmeraldas (CANE). These organizations are permanent autonomous umbrella associations comprised of Afro and indigenous territorial authorities with strong coordination mechanisms between communities in the two countries and within their institutional structures. Selection of participating communities is based on food insecurity, malnutrition and vulnerability criteria applied in the two watersheds, with communities located in Putumayo and Nariño in Colombia, and Sucumbíos, Carchi and Esmeraldas in Ecuador.

Importantly, this project proposes to implement climate change adaptation measures in the Mira-Mataje and Guaitara-Carchi binational watersheds along the Colombia-Ecuador border, contributing to strengthening food security and nutrition and, indirectly, confidence in peace, helping to bring stability to the border area. Specifically, the binational project aims to empower Afro and Awá institutions and communities to: 1) rescue traditional and local knowledge in support of adaptation and food security; 2) invest in measures to strengthen climate services in support of food security and nutrition, based on a cost-benefit analysis of adaptation measures; 3) prevent or minimize the impacts of climate events and shocks; 4) adapt to longer-term climate threats through community and institutional capacity strengthening; and 5) restore vital ecosystem services and diversify livelihoods away from resource extraction. All will contribute to reversing the marginalization that these ethnic groups have faced for over 50 years, contributing to food security and nutrition through adaptation to climate change.

[7] As Afro and Awá territories operate independently from the national territory, the Life Plans and local governance plans outline the community development and humanitarian objectives to guide local legal structures.

MAP 1
Communities by River Subareas

Climate Vulnerability at National Levels

The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) projected that in Latin America: a) tropical forests in the Amazon would be gradually replaced by savannas; b) semi-arid vegetation would be replaced by arid land vegetation; c) there would be a loss of biodiversity, with extinctions of species; and d) reductions in agricultural and livestock productivity would occur with adverse consequences for food security and nutrition.[8]

According to the Institute of Hydrology, Meteorology, and Environmental Studies of Colombia (IDEAM), Colombia is highly vulnerable to the environmental effects associated with climate change. Already, multiple departments in the country are experiencing a higher incidence of extreme rainfall events, higher average temperatures and decreased levels of humidity. Glacial retreat is an emerging problem, with glacial areas losing 3 percent to 5 percent of coverage per year. Sea levels have been rising 3.4 millimeters (mm) per year,[9] threatening communities on the Caribbean and Pacific coasts. Approximately 47 percent of coastal mangroves, grasslands, scrublands and lagoons are considered at risk. With sea

[8] IPCC 2014. *Climate Change 2014: Synthesis Report*.
[9] NASA Goddard Space Flight Center 2016.

levels rising as much as 1 meter (m) by the end of the 21st century, 41 percent of the populations along the Pacific Coast will be vulnerable to periodic flooding.

According to the Ecuador's Ministry of the Environment (MAE), the country has experienced sustained increases in temperature, changes in frequency and intensity of extreme events (droughts, floods), changes in the hydrological regime and the retreat of glaciers.[10] Crucial is the variation recorded in the last ten years with intense precipitation in very short periods followed by periods of significant decrease in precipitation. As well, the retreat of glaciers in recent years is significant, with 20 to 30 percent loss of ice mass in the last 30 years. For example, studies show that between 1976 and 2005, the surface covered by glacial ice on the mountain Cotopaxi has decreased by 30 percent.[11]

High mountain agro-ecosystems in Ecuador are exposed to cyclical drought, thus glacier runoff, which is threatened by the retreating glaciers, is critical for providing mountain communities with reliable water sources and sustaining livelihoods. Likewise, coastal and estuarine ecosystems along the Pacific Coast and the Guayas River estuary are particularly exposed to rising sea levels and settlements in the low-lying coastal areas.[12] Over the past few years, increasing social conflicts surrounding water resources and watershed management in Ecuador have led to a growing public debate surrounding the need for policy reform in the water resources sector.[13] In 2014, the Ecuadorian congress passed a Law of Usage and Management of Water Resources which prohibits privatization and commercialization of water, making water subject to administration of public entities and communities.

Climate threats to the border area

The border area between Colombia and Ecuador is one of the most climate sensitive and food-insecure regions in Latin America.[14] The region's climate is heavily influenced by effects from the Inter-Tropical Convergence zone (ITCZ) and by other meteorological and geographic conditions related to solar radiation and wind and precipitation systems as well as recurrent climate change effects from La Niña and El Niño.

These factors influence not only macro- and micro-climates, but also a range of ecosystems within the region, including the coastal mangroves and inland dry and humid forest systems which are prioritized for this project. The proposed project area encompasses more than 915,000 hectares in two binational watersheds – the Guaitara-Carchi and the Mira-Mataje. The Guaitara-Carchi watershed is key to the project owing its importance as an upland area and major tributary to the Mira-Mataje watershed where targeted communities are located. These watersheds pass through Nariño department in Colombia, and Carchi and Esmeraldas provinces in Ecuador. Approximately 54 percent of the combined watersheds area is in Colombia and 46 percent in Ecuador.[15]

Climate and weather patterns in much of the project area are also influenced by the Chiles-Cerro Negro-Cumbal volcano complex which dominates the landscape in the central and eastern part of the target area. These three volcanoes form a triangle with Cerro Negro

[10] Ecuador's National Environment Policy 2010.
[11] Cáceres, B, et al. 2005
[12] IPCC 2014: *Impacts,Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*. IPCC
[13] *The Water Conflict in Ecuador*. Columbia University. 2010.
[14] Seddon, A.W.R., et al. 2016. *Sensitivity of global terrestrial ecosystems to climate variability. Nature.*
[15] According to WFP Colombia research team, 2016

(4450 m) and Chiles (4729 m) only three kilometers apart from each other straddling the border area, and Cumbal (4723 m) located approximately 20 kilometers further north. The complex's alpine *páramo* ecosystems and glacier meltwaters are the major source waters for both the Mira-Mataje and the Carchi-Guaitara target area watersheds. Within this volcanic triangle in Colombia, the important tributary San Juan River first flows westward to feed the Mira River, also named the Mataje River for its part which flows through Ecuador. The Carchi River, whose headwaters originate just south of the border in Ecuador, initially flows eastward and then turns northward to become the Guaitara River once in Colombia. These watersheds are not only important strategic hydrological systems for both countries, but also keys for biodiversity and food security owing to their flora and fauna.

Environmental conditions in these upper watershed reaches are obviously key to climate-related vulnerabilities in the middle and lower watershed zones, particularly for flooding and landslides. However, biodiversity and local microclimates themselves are also directly affected by the severe deforestation and accompanying erosion which has occurred in the area.[16] Alterations in the intensity of rainfall along with longer and extended periods of drought, are newfound changes in climate patterns noted by local residents. They represent a marked change from the previously dependable and balanced cycle of 6 months of dry and 6 months of wetter weather. These climate shocks and extremes put at risk all aspects of local agricultural production[17] and food security. Further, the longer periods of drought have brought with them a new vulnerability; wildfires. These were relatively unknown a few short decades ago.

Average annual rainfall varies between 2000-9000 mm in the border area. Rainfall patterns are bi-model, with two peak rainy periods between March-June and November-January and a dry period from July - August. The targeted watersheds consist of tropical climates- 0-800 meters above sea level (masl), with temperatures greater than 33° Celsius (C) and temperate climates- 800-1800 masl, with temperatures ranging from 8-24°C.[18]

Over the last three decades, a number of climate trends have become quite evident in the binational watersheds, including increasing rainfall variability, increasing temperatures and frequency of extreme climatic events. In addition there are rising sea levels, more frequent storms and ocean warming and acidification.[19,20] These trends show extreme fluctuations, ranging from serious precipitation deficits to extensive intense rainfall associated with the southern and quasi-biennial oscillations of the ITCZ and ENSO. These longer-term climate trends threaten the livelihoods and fragile food security and nutrition of communities living in the border region particularly when combined with the negative impacts of deforestation and agricultural expansion. Table 1 shows that both climate vulnerability and agricultural expansion will increase over the century.

In the border region, maximum and minimum temperatures have been increasing – specifically, both days and nights are warmer.[21] According to climate scenarios generated

[16] See: Burgos Gonzales, Ana Cecilia y Gomes Velandia, Giselle Catalina Avances y retos en la gestión de las cuencas binacionales de Colombia: los casos de las cuencas hidrográficas internacionales colombo-ecuatorianas y colombo-venezolanas. Facultades de Ciencia Política y Gobierno y de Relaciones Internacionales. Centro de Estudios Políticos e Internacionales, Bogotá: Editorial Universidad del Rosario, 2007.
[17] Plan de Desarrollo y Ordenamiento Territorial del Cantón Mra, 2016 – 2019. Gobierno Autónomo Descentralizado del Cantón Mira.
[18] Tropical climates correspond to 71 percent of project area, while temperate climates represent 23 percent of the área.
[19] IDEAM 2016.
[20] Sierra, R., et al. 2009.
[21] In Ecuador, between 1960- 2006, average annual temperatures increased by 0.8°C, maximum annual temperatures increased by 1.4°C and the minimum annual temperature increased by 1.0 °C. Source: GEF/UNDP/MAE 2011.

by IDEAM for Colombia,[22] temperatures will increase by up to 2.6°C in the border region by 2100. Similarly, under RCP 4.5 climate scenario for 2100 predict temperature increases by up to 1.5°C in Esmeraldas and Carchi.[23] In western Nariño in Colombia, along the border with Esmeraldas in Ecuador, maximum annual temperature increased by 0.54°C per decade between 1975- 2011; and mean annual temperature increased by 0.05°C over the forty year period.[24] From 1960 – 2006, temperatures along the Ecuadorian coast increased by 0.5 – 0.6°C and temperatures in the Andes increased by 1.5°C.

TABLE 1
Climate Vulnerability and the Agricultural Expansion Index (AEI) [25]

Year	Vulnerabilities	AEI
2009	-17.8	52.2
2020	-48.2	61.9
2050	-53.0	75.5

In the period from 2005 to 2010 over 7722 km2 or 772,200 ha of forest lands in Colombia were converted for agricultural use. In the Andes region conversion into pastures accounted for 80% of the regional total[26]. Further in 2012-2013 over 120,000 Ha of natural forests were lost to deforestation nationally.[27]

According to Ecuador's Second National Communication on Climate Change, climate scenarios for 2090 predict an overall increase in precipitation by 9.78 percent in Carchi and 30.39 percent in Esmeraldas. However, a micro-watershed analysis of precipitation patterns in the Mira and Guaitara watersheds in Colombia predict decreases in precipitation over the century.

In the border region, it has been observed that the intensity, frequency and duration of extreme events have increased, especially during ENSO. This phenomenon occurs in five-year cycles and scientists suggest that extreme events like flooding and drought, common during ENSO, are becoming more intense due to climate change.[28] During the 2010-2011 La Niña event, rainfall increased by 33 percent in the Mira-Mataje watershed; in 1988-1989, rainfall increased by 150 percent in the municipality of Barbacoas in Nariño. These extreme rainfall events resulted in landslides which isolated already marginalized communities. More recently, the 2016 El Niño phenomenon, the most severe on record in Latin America, resulted in prolonged drought and forest fires, limiting water access for human and animal consumption and decreasing crop production in the border area.

[22] For the Third National Communication on Climate Change
[23] CEPAL 2012.
[24] At 3,120 masl, in the Guaitara-Carchi watershed, in the semi-humid cold climate
[25] This study, conducted in Colombia, discovered that vulnerability to climate change will rise significantly by the year 2020 while the agricultural frontier will consistently expand. Source: National Climate Committee 2001.
[26] Nepstad etal, 2013

[27] Ministry of Environment of Colombia, 2015
[28] Trenberth et al., 2003; IPCC Fourth Assessment Report: Climate Change 2007.

Within specific thermal micro-climates, these trends become more pronounced. In the hot, humid sub-zone of the Río Mira,[29] with average annual rainfall of 5400 mm, climate change has reduced the average rainfall between 50 and 60 percent over the last two decades. During El Niño events over the past decade there has been a 17 percent decrease in annual rainfall. Taking into account the downward trend it is anticipated that rainfall during future El Niño events will be even lower.

Climate Impacts and the Targeted Ecosystems

Mangroves

In the mangrove ecosystem that links Colombia and Ecuador along the Pacific Coast, rising sea levels, more intense storm surges, coastal flooding and soil saturation threaten mangrove seedling establishment and destroy older stands, thus reducing system resilience and the ability to provide vital ecosystem services to coastal and inland communities. Such services include aquaculture, protection from storm surges and erosion control.[30] Sea levels are estimated to rise by one meter this century. There are 124,173 hectares of mangroves in the Mira watershed (Colombia) and 18,060 hectares in Esmeraldas (Ecuador) potentially affected by climate change.

Loss of mangrove areas due to sea level rise, intense rainfall events and sedimentation negatively affect aquaculture and the production of estuarine species such as shellfish, red crab and sea bass for trade and consumption. In Ecuador, sea level rise will impact 21 percent of mangrove species with economic value by the end of the century.[31] Rising sea-levels and changing tidal and wind patterns impact fish catches, affecting availability for both trade and family consumption. Fishing and shellfish harvesting are affected by distinct climate threats; the expansion of saltwater into coastal groundwater sources and the disturbance of estuary soils by flooding rivers. Additionally, flooding of agricultural lands due to rising sea levels will impact not only fresh-water availability, but also income-generating opportunities like cacao, coconut and green plantain production. Additionally, climate change will exacerbate the expansion of tropical diseases and pests, affecting the balance of this fragile ecosystem.[32]

Páramos, mountain and forest ecosystems

In tropical dry and tropical rainforest ecosystems of the binational watershed, climate change intensifies insect infestations. Long-term increases in temperature and decreases in rainfall in high-mountain ecosystems are projected to reduce the fragile biodiversity of these areas. These ecosystems are also predicted to experience severe water shortages. For example, the Guaitara River which is a critical water source for a range of uses, is expected to see water withdrawals increase by 50 percent due to land use patterns in the border region (See Map 2).

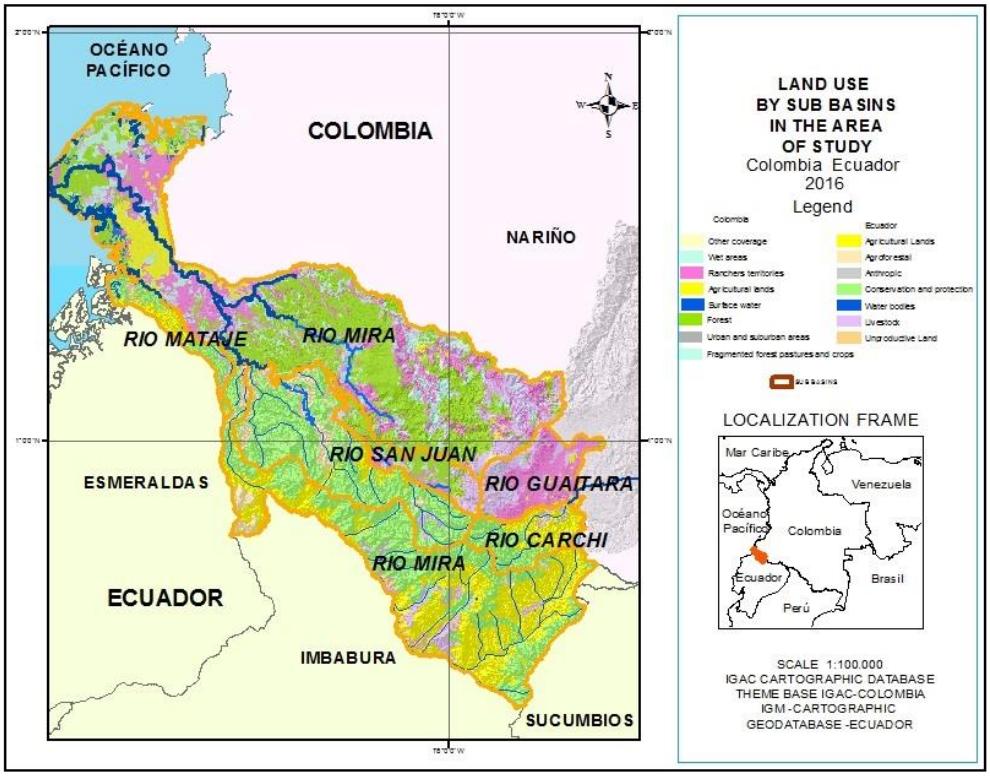
It is also important to note that Colombia has over 60 percent of the total global *páramo* area. These cold high-altitude wetlands generally are below any permanent snowline but above the altitude of continuous forest. In areas near the Equador-Colombia border this

[29] Based on IDEAM's Caldas-Lang model for climate classifications.
[30] IDEAM 2014.
[31] CEPAL 2012.
[32] MAE 2011; Sierra, et al. 2009.

translates into between 3100 and 4000 metres in altitude.[33] *Páramos'* unique flora and fauna include giant rosette plants and a broad range of mammals, reptiles, birds, amphibians and insects not found in other ecosystems. Their role in sequestering carbon dioxide, as well as in filtering and purifying water in the upper reaches of watersheds, underlines their importance not only in terms of the hydrologic cycle, but also with respect to biodiversity, ecosystem health, and food security and nutrition.

The Andes in northern Ecuador experienced a temperature increase of 1.5°C from 1960 to 2006, a trend more evident in the mountain regions than along the coast.[34,35] As well, rainfall patterns were highly irregular with many extreme events. The humid plains and high Andean forests are anticipated to experience significant rainfall reductions by the end of the century while other landscapes such as low altitude wet Andean regions may expand.

MAP 2
Land Use in Binational watersheds[36]



Marine species and vulnerability to climate change

[33] *http://www.copenhagenconsensus.com/sites/default/files/biodiversity_english_resource.pdf*
[34] UK Department for International Development (DFID) and World Wildlife Foundation (WWF) 2011. *Climate Change in a Living Landscape: Conceptual and Methodological Aspects of a Vulnerability Assessment in the Eastern Cordillera Real of Colombia, Ecuador and Peru.*
[35] Ecuador's National Development Plan (2013-2017) and Sierra et al. 2009
[36] Map 2 shows the various soil uses in the binational the Guaitara-Carchi and Mira-Mataje.watersheds. Over 40 percent of lands are used for agriculture and livestock activities.

Changes in temperature, circulation patterns and sea level will alter the availability of commercial marine species for local economies.[37] Specifically, cold water species such as tuna will decrease in abundance or migrate away from the equator, whereas high temperature tolerant species like marine shrimp will increase in abundance. ENSO-driven sea level rise impacts shellfish reproductive cycles and result in larval die-offs, especially during peak periods of reproduction between February and June.[38] Edible fresh-water species, such as cagua, chala and anchenda, have recently disappeared from the Mira watershed.

Crops and vulnerability to climate change

An important cash crop in the two binational watersheds is cacao. It grows best at 1300 masl, with temperatures between 22 and 30°C and average precipitation of 2500 mm. Due to climate variability by 2100, the projected rainfall decrease to 1500 mm/year will severely affect yields and production potential, destroying the livelihoods of smallholder farmers who are completely dependent on cacao sale.

Extreme climate events are also affecting the cultivation of plantain, which is a dietary staple for the Afro descendants on the coast. Plantain requires mean temperatures of 26-27°C and prolonged and regular rainfall. Cultivation is highly vulnerable to pests such as weevil and screw worm; these populations are expected to expand with increases in temperature. During extreme rainfall events, plantain crops can be affected by the sigatoka disease, commonly known as black leaf streak. Climate change is also affecting livestock productivity throughout the border region due to the reduced rainfall, extreme heat, degraded land areas and a shortage of pasture and climate-resistant forage.[39]

Food Security and Nutrition in Binational Watershed Communities

In the two watersheds food security and nutrition is related to production, access, utilization and stability constraints. Climate events negatively impact rain-fed agriculture as described above, as well as access to markets. Poor infrastructure combined with extreme events like heavy rainfalls cause landslides, damage roads and block access points, which increase costs for smallholder farmers making their products uncompetitive. Rising temperatures gradually change ecosystems, as plants and animals are redistributed according to their tolerance to heat, reducing vital ecosystem services. Changing composition in ecosystems has already limited dietary diversity in Awá communities whereas harvest yields in Afro-descendant communities have been reduced by increased climate variability and unpredictability and variability in precipitation and seasonality. This has limited community's abilities to accurately plan crop cultivation. A key contributing factor to community vulnerability in both binational watersheds is a lack of information concerning possible response options for dealing with climate variability, including early warning systems (EWS).

Awá and Afro-descendent peoples share the target area watersheds, which include frontier forests and other ecosystems that have become more susceptible to an influx of newcomers in recent decade where they are competing for fragile resources. The newcomers often engage in informal economic activities that affect the traditional way of life of the Awá and Afro-descendant communities. These activities include unstainable land management practices, overuse of chemicals in mining and illicit crop production, over-exploitation of water resources, expansion of the agriculture frontier and deforestation. In addition, the

[37] FAO Newsroom. 2008. *Climate change will have strong impact on fisheries.*
[38] SwissAid 2009.
[39] CIAT. 2014.

pressures on social structures are eroding traditional practices and knowledge that have helped to maintain social harmony and respect for nature for centuries. Other negative impacts related to labour practices, new consumer goods and introduction of invasive species have already affected the culture, livelihoods of ethnic communities, and their access to native species in the two targeted watersheds. A decrease in native species, when combined with more intense climate risks, threatens survival of many communities whose sole livelihood depends on these fragile ecosystems. Consequently, adaptation planning and concrete actions that strengthen the livelihoods of Awá and Afro communities is a priority for both Colombia and Ecuador.

Colombians who fled the conflict are particularly vulnerable to food insecurity; 70 percent of recent arrivals to Ecuador are food insecure and 24 percent of displaced children suffer from malnutrition.[40,41] A number of factors contribute to their vulnerability, including: inadequate access to social services, conflict between mining and agriculture, deforestation, the contamination and depletion of aquifers and climate change and variability.

Peace and border stability offers an opportunity for both Colombia and Ecuador to improve community resilience and food security through rehabilitation of degraded lands, investment in agricultural systems and climate services and an increased access to high quality and diverse diets; the latter particularly important during the dry season.[42] In the border area, Afro-descendants and the Awá are dependent on fishing and agriculture and many lack formal employment and access to education due to the remoteness of their territories, exclusionary development policies and the armed conflict. Opportunities for economic advancement and the potential to build more resilient livelihoods are minimal; this greatly impacts food security and nutrition and the potential to adapt to a changing climate.

Nutrition Situation

According to the WFP's 2014 Vulnerability and Mapping Analysis and a national nutrition survey, approximately 43 percent of Colombians consider themselves food insecure due to lack of access to basic staples and nutritious foods.[43] In Ecuador the situation is similar.[44] Afro-descendent and Awá populations living in the border area between Colombia and Ecuador face high levels of malnutrition and insufficient food consumption. Chronic malnutrition in children under five reaches nearly 70 percent in indigenous territories in both countries, compared to 13 percent nationally in Colombia and 25 percent in Ecuador.[45]

Malnutrition in all its forms is worse in rural indigenous and Afro communities in both Colombia and Ecuador. The triple burden – obesity, under-nutrition and micronutrient deficiencies – is an increasing problem in the border region. In the Pacific region of Colombia, 60 percent of Awá children under five suffer from chronic malnutrition and 10 percent suffer from acute malnutrition. In this area, 42 percent of children aged 1-4 register vitamin A deficiencies and 41.2 percent of children under five have anemia. Lack of micronutrients, specifically iron deficiencies, is a principal cause of child death. In the binational watershed municipality of Tumaco, infant mortality rates reach up to 58 percent.[46] Chronic malnutrition is 36.4 percent and the prevalence of obesity in children over five is 3.2

[40] WFP Ecuador. 2015.
[41] Del Castillo, M., et al. 2014.
[42] REDD+
[43] Colombian Institute for Family Wellbeing (ICBF). National Nutrition Survey for Colombia (ENSIN). 2005.
[44] Life Condition Survey. 2014.
[45] UNDP
[46] Municipal Food and Nutrition Security Table of Tumaco 2012; *Food and Nutrition Plan for Afro and Indigenous People of the Tumaco Municipality for the Colombian Pacific (2012-2022)*

percent in the binational watershed municipality of Barbacoas. In Ricaurte, 60 percent of children aged 10-18 and 36.4 percent of children under two face chronic malnutrition.[47]

Ecuador reports high levels of chronic malnutrition in children under five in the border area, with 17.7 percent in Esmeraldas and 33.2 percent in Carchi. For indigenous populations in Carchi, this rate climbs to 51 percent.[48] While these numbers are astoundingly high, they likely underestimate the prevalence of both chronic malnutrition and obesity in Afro-descendent and Awá populations because the numbers come from departmental health centers. These institutions are typically located far away from communities.

In Nariño, up to 79 percent of families registered poor food consumption and 75 percent lack access to basic services.[49] In 2005, government census data showed that the rate of Unmet Basic Needs reaches up to 90 percent,[50] particularly in rural populations in the Barbacaos municipality in Nariño. In this municipality, 40 percent of children are not breast-fed.[51] In Ecuador, 56.8 percent of families in Esmeraldas and 32.6 percent of families in Carchi registered poor food consumption in 2014. The rate of Unmet Basic Needs reaches 56.3 percent in Esmeraldas and 24.5 percent in Carchi, but climbs to 60 percent for indigenous communities in these provinces.[52]

Socio-economic Context of Afro-Descendants

Along the Pacific Coast, the main economic drivers include: cacao, plantain and coconut production, natural rubber and palm oil production, artisanal fishing and shellfish collection, as well as wood extraction and an emerging tourism industry. In highland territories, the Afro economy centers on small livestock production (pigs and goats) and subsistence agriculture, including the cultivation of beans, maize, sugar cane, avocado, fruits and pepper. Both agriculture and fishing livelihoods are vulnerable to climate change, particularly rising sea levels that impact mangrove ecosystems and subsistence agricultural lands, putting populations at risk of food insecurity. The Pacific coast of the border region has been heavily impacted by deforestation and illegal activities such as coca cultivation. In both Colombia and Ecuador, palm oil production has resulted in forest clear-cutting and the expansion of the agricultural frontier**.**

Reconciliation and building confidence in peace will require actions to strengthen Afro cultural identity, territorial and natural resource protection and living in harmony with nature and realization of social rights, all pillars of Afro-descendant society. There are approximately 40,000 Afro-descendent women and 33,000 men in the border municipality of Tumaco who have been victims of the conflict.[53] With the Colombian Government discussing implementation of the peace agreement with FARC, displaced people are gradually returning to their lands and livelihoods.

Socio-economic context of the Awá

[47] Departmental Health Institute of Nariño (2015)
[48]https://www.minsalud.gov.co/Documentos%20y%20Publicaciones/An%C3%A1lisis%20de%20situaci%C3%B3n%20de%20salud%20por%20regiones.pdf (2014); Encuesta Nacional de Salud y Nutrición Ecuador
[49] WFP Emergency Food Security Assessment (EFSA) (April 2016)
[50] DANE. 2010.
[51] Departmental Health Institute of Nariño. 2015.
[52] Life Condition Survey. 2014.
[53] Departmental Health Institute of Nariño. 2015.

In Awá tradition, the economy is based on reciprocity and solidarity rather than accumulation or monetary remuneration. The indigenous economy is based on the use of diverse skills and knowledge that traditionally have allowed for a sustainable use of available natural resources. Specifically, the Awá tend to engage in limited hunting and fishing for subsistence, gathering of non-timber forest products and agriculture for self-consumption (maize, bananas and yucca). These subsistence activities are mostly carried out at an individual, family or collective level and livelihoods have traditionally not depended on waged labour.

The traditional economy of Awá communities depends almost exclusively on traditional and local knowledge, encompassing ecological, environmental and cultural knowledge which in the past was orally transmitted from generation to generation by women in Awápit, the local language. The prohibition of Awápit use by armed forces in the area, have directly threatened intergenerational knowledge transmission and reduced livelihoods opportunities. The challenges present in preserving traditional ways of life are exacerbated by the conflict, mega projects and the introduction of market economies that have resulted in significant social costs for the Awá in particular, weakening their relationship with nature and their traditional systems of reciprocity and previously sustainable living practices.

The advance of extractive activities, especially logging, oil palm plantations, mining and illicit crops, have decreased the quality of life of the Awá people, for example their hunting and gathering opportunities. This forces them to develop alternative coping strategies to survive, including cutting forests and planting pastures for grazing cows, or the extensive cultivation of rice, beans, and even illicit crops. All put additional pressures on already degraded soils. In extreme situations, such as with the recent intense *El Niño* event, and in times of scarcity of natural resource availability, people have started to migrate to towns in search of paid daily work.

Having been historically marginalized, the Awá have vigorously maintained their political autonomy and defended their territories against threats of violence; including recently against the influx of the extractive sector and illegal activities. In Colombia, there are over 2,400 Awá women and 2,166 men who have been victims of the conflict. In Ecuador, the Awá have been threatened by a range of extractive and intrusive operations (wood, palm oil and mining). These operations in conjunction with recent ENSO-related phenomena have severely restricted access to water, negatively affecting FSN, livelihoods and incomes.

Gender Empowerment and Climate Change Adaptation

In both binational watersheds, women face higher levels of vulnerability to climate change than men. Women are more likely to die during and after disasters because they lack access to EWS, knowledge of survival skills and freedom of movement. Additionally, they often cannot access relief services or receive compensation for property losses because they lack property titles. In many indigenous communities residents do not speak Spanish. While women make up the majority of the labor force in mangrove shellfish harvesting and smallholder farming operations, they have limited roles in decision-making. Empowering women and enhancing their role in adapting to climate change will be essential for bettering family food security and nutrition.

In the targeted binational territories, women have lower education levels, less access to credit, and less participation in decision-making mechanisms. In the Pacific region, women die from preventable diseases due to lack of access to adequate health care. Violence

impacts women including intimate partner violence, violence from conflict, and femicides, all prevalent in both Awá and Afro societies. Violence was identified as a critical issue by Awá women in addition to insufficient access to health services and prioritization of gender in government policies.[54]

Gender inequality, as measured by UNDP's Gender Inequality Index (2013), is 46.0 in Colombia and 42.9 in Ecuador; these are both above South America's average of 41.6. The Awá and Afro-descendant peoples are characterized by gender-based inequalities within their cultures and communities. However, the role women play and the constraints they face are quite different in the two communities. While Afro women are very active in the organizational structures of their communities, Awá women have a more discrete level of participation in governance. In terms of livelihoods Afro women living in mangrove communities have a significant level of control over the extraction of seashells or "conchas" (a key income generation activity in these communities). However, women are at a distinct disadvantage in financial matters, and within the family they often do not have control over the income they receive, especially from informal markets or labour. Control over income is a key factor contributing to family violence in Afro communities.

Awá women are usually in charge of animal husbandry and handicraft production, but often receive very low compensation for their finished goods and are subject to the decisions of middlemen. As education levels are low and young women are expected to produce offspring, their livelihood options are severely limited. As well, young girls are not given the same treatment as boys in many communities (shorter breast feeding times for girls so that the women can more quickly produce a boy for example). Importantly, as the natural resources they depend upon become less available due to climate shocks and environmental degradation, traditional livelihoods and income generation opportunities for Afro and Awá women are increasingly at risk.

Despite these inequities, Afro and Awá societies do promote women in certain types of decision-making. In Afro society, the ethno-development plan of RECOMPAS promotes gender equality and the empowerment of women in environmental management practices and includes women on community councils, their main governance structure. Similarly, the Life Plan of the Awá promotes the participation of women in certain decision-making spaces. However, the actual implementation of such policies can be slow to take effect; women have not yet achieved the equity and true empowerment needed to face the new realities associated with climate change.

Climate Change Adaptation, Food Security and Peace

In December of 2016, the Colombian government and FARC rebels signed a peace agreement which provides an opportunity for communities in the Colombia-Ecuador border region to rehabilitate their lands, recover their traditions and livelihoods and work to improve community food security and nutrition. Climate change adaptation and peace are mutually reinforcing, as enhancing community capacities to adapt to climate variability reduces conflict risk. At the same time peace-building actions that address weak governance and socio-economic issues strengthen joint adaptation actions.[55] CbA and EbA approaches are tools to support peace-building and develop culturally sensitive models to address both

[54] Defensoría del Pueblo. 2011.
[55] Smith, D. and Vivenkananda, J. 2007.

social and economic injustices as well as the potential damages from increasing climatic variability.

Project Objectives

This project proposes to strengthen food security and nutrition through climate change adaptation measures in two watershed on the Colombia-Ecuador border area in accordance with the binational working groups', and Awa and Afro community´s priorities. Project actions will contribute to reversing the marginalization that Afro and Awá communities have faced from the social and environmental damage from the conflict and contribute to peace and reconciliation through adaptation to climate change.

The project aims to achieve the following high-level objectives:

1) Reduce climate vulnerabilities of local Afro and indigenous communities and the ecosystems they depend on, promoting food security and nutrition, and contributing to the construction of peace; and

2) Strengthen adaptive capacities of Afro and indigenous communities in the cross-border region and strengthen regional institutions to address the threats posed by climate change.

Project Components and Financing

Outcome / Output	Activity	COUNTRIES	TOTAL USD
Component 1: Increase community awareness and knowledge on climate change risks and food security and nutrition in two border binational watersheds			**1.781.500**
1.1. Traditional and local knowledge recovered to support sustainable adaptation measures, food security and nutrition, and resilient livelihoods.	1.1.1. One study per watershed produced on traditional and local practices, promoting resilience to climate change and variability in the targeted binational watersheds, with community participation and particular attention to ancestral and native plant and tree species that can improve dietary diversity and are resilient to climate change	**Colombia Ecuador**	169.200
	1.1.2. Feasibility study conducted with communities to assess the potential for marketing native species for medicinal, artisanal, food and fodder related uses at regional and departmental levels	**Colombia Ecuador**	56.400
	1.1.3. Workshops, dialogues and cultural events (including fairs) organized to disseminate study results to 120 Afro and Awá communities, leaders and decision makers, in local languages. Equitable participation of men and women will be promoted	**Colombia Ecuador**	430.200
1.2 Traditional knowledge related to climate change threats and adaptation measures integrated in community dialogues and decision-making processes.	1.2.1. In 120 communities, leaders, community members and women groups trained on climate change threats with culturally and gender sensitive methods. Equitable participation of men and women will be promoted	**Colombia Ecuador**	200.200
	1.2.2. Dialogues, fairs and exchanges involving 120 communities, leaders and community members on food security, nutrition and healthy living habits, considering climate threats, with special focus on diversifying diets and increasing incomes from the production and sale of native species and products. Equitable participation of men and women will be promoted	**Colombia Ecuador**	150.000
	1.2.3. One binational web-based adaptation learning platform in use	**Colombia Ecuador**	150.000
	1.2.4. Compilations and sharing of best practices on risk reduction and risk management actions at binational watershed level, considering ecosystem type and emphasizing traditional and local knowledge	**Colombia Ecuador**	625.500[56]

[56] Upon further consultation with community members, an increase in funding for knowledge management, including the sharing best practices, was agreed to.

Component 2: Increase binational, institutional and community capacities to sustainably address recurrent climate risks, particularly those that affect food security and nutrition			**1.681.800**
2.1. Increase scientific knowledge to manage climate change and risk, affecting food security and nutrition.	2.1.1**.** Studies at the binational watershed level produced on: 1) water provision considering climate threats; 2) ecosystem vulnerability in the face of climate change and variability and extreme events; and 3) food security and nutrition in risk prone communities	**Colombia Ecuador**	761.300
2.2. Risk reduction capacity of binational institutions and communities strengthened, including leveraging climate services.	2.2.1. Binational Early Warning Systems introduced, specifically tailored to inform the Afro and Awá communities about extreme events. Additionally, climate services will be introduced to include agro-meteorological data; vulnerability mapping, with a focus on crop yields and cycles; and climate risks in mangrove and high-mountain ecosystems	**Colombia Ecuador**	700.500
	2.2.2. Approximately 120 leaders and community members trained in Emergency Preparedness and Response and understanding and planning for climate threats	**Colombia Ecuador**	220.000
Component 3: Reduce recurrent climate vulnerabilities through innovative community and ecosystem-driven adaption measures that reduce food insecurity			**8.320.500**
3.1. Improved access to livelihood assets, enhanced resilience and reduced risks from climate shocks in food-insecure communities and households.	3.1.1**.** Participatory approaches developed, interfacing scientific and traditional knowledge	**Colombia Ecuador**	40.000
	3.1.2. Effective adaptation measures designed and implemented incorporating participatory approaches, traditional and local knowledge and tested techniques to recover of degraded ecosystems in 120 communities	**Colombia Ecuador**	3.800.000
	3.1.3. Community water harvesting, storage and management measures introduced	**Colombia Ecuador**	1.300.000
	3.1.4. Cost-benefit analysis of proposed adaptation measures at micro-watershed level	**Colombia Ecuador**	220.000
	3.1.5. Native species reintroduced to diversify production and consumption and for commercialization, including introduction of organic and agro-ecological crop production practices and ocean species	**Colombia Ecuador**	1.280.500
3.2 Increased adaptive capacity and ecosystem resilience to respond to climate threats and food insecurity.	3.2.1. Soil management activities implemented, including agro-forestry and native nitrogen-fixing species	**Colombia Ecuador**	780.000

	3.2.2. Conservation and recovery of 3,000 ha of forest ecosystems and 2,000 ha of mangroves threatened by climate change through tree planting and forest management actions, at the micro-watershed level, with species that are native and resistant to climate variability, in line with national plans	**Colombia Ecuador**	900.000
Project Components		**11.783.800**	
Project Execution 9.5%		**1.119.400**	
Total Project Cost		**12.903.200**	
MIE Management Fees 8,5%		**1.096.800**	
Total Financing requested		**14.000.000**	

Projected Calendar

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

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2017
Mid-term Evaulation	January 2020
Project/Programme Closing	May 2022
Terminal Evaluation	May 2022

PART II: PROJECT JUSTIFICATION

A. Project Components

The governments of Colombia and Ecuador recognize the importance of territorial and differential approaches, especially in strengthening the role of Afro and Awá communities within the priorities of the binational technical commissions on Environmental Affairs and Social and Cultural Affairs.[57] The project additionally aligns with the Paris Agreement through leveraging local knowledge on adaptation into relevant socioeconomic and environmental frameworks.[58] The Constitutions of Colombia and Ecuador promote adopting traditional and local knowledge for natural resource management. In support of these overarching policy directions the project will adopt a culturally, conflict- and gender- sensitive territorial approach using CbA and EbA approaches. This project will address climate change, climate variability, and shocks related to extreme events in the two targeted watersheds in the border region of Colombia and Ecuador, contributing to food security and nutrition through the following three components:

Component 1: Increase community awareness and knowledge on climate change risks and food security and nutrition in two border binational watersheds;
Component 2: Increase binational, institutional and community capacities to sustainably address recurrent climate risks, particularly those that affect food security and nutrition; and
Component 3: Reduce recurrent climate vulnerabilities through innovative community and ecosystem-driven adaption measures that reduce food insecurity

This project will support national strategies for climate change by specifically addressing local exposure to climate change risks, in particular as they affect food security and nutrition.

[57] The Environmental Affairs Binational Technical Committee focuses on integrated management of binational watersheds, protection of biodiversity and disaster risk reduction activities. Within the Social and Cultural Affairs Binational Technical Committee, there is a sub-committee on Afro and indigenous affairs, which focuses on environmental matters, political, educational and institutional strengthening and protection and human rights.

[58] Article 7, bullet point no. 05. *"Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate."*

The binational territorial approach will be coordinated at four levels: national, departmental/provincial, municipal and communal, with implementation of concrete measures at community level. However, coordination will be strengthened at all levels through concrete management mechanisms and the active involvement of the project management committee. Participatory methodologies, tools and planning approaches will be developed as part of the project, with the aim of broader application in other binational watersheds.

The project is innovative and highly cost-effective due to its binational watershed approach, which will result in a number of cost-savings and efficiencies (See Part II Section D). The commitment and local knowledge of executing partners, including the Grand Family Awá, RECOMPAS and CANE, will contribute to locally-driven planning and execution, thus helping to ensure ownership and the high potential for replicability, scalability and the sustainability of this regional project.

Importantly, WFP has technical and management capacity in the proposed departments including sub-office presence in the targeted territory.[59] WFP has worked for over a decade with the targeted Afro and Awá communities and is recognized for improving food security and nutrition, and building resilience at community level in the area. The organization frequently works in sensitive situations and can access remote territories.

Components

1) **Component 1:** Increase community awareness and knowledge on climate change risks and food security and nutrition security in the binational watersheds

Objective: *Recover with full participation of Afro and Awá communities traditional knowledge and capacities to manage climate change risks and food security and nutrition in targeted binational watersheds.*

All activities under this component will raise awareness and understanding of climate risks and adaptation solutions, with special attention given to recovering ancestral knowledge, with a culturally and gender sensitive lens and a focus on food security and nutrition. Afro and Awá communities are faced with increasing fragmentation of their social structures due to external forces like environmental damage and the influx of mega projects, which accelerate the loss of traditional and local knowledge. In accordance with IPCC recommendations, recovery of cultures, local languages and traditional knowledge are means to strengthen social fabrics and connect younger generations with community elders, promoting the transfer of knowledge and practices.[60] Specific traditional practices and knowledge to recover and exchange include: traditional medicinal practices with native plants that are resilient to climate variation, native plant and crop species resistant to climate change for food production and diet diversification and traditional food preparation practices. Thus, attention will be given to promoting collective memory, the role of women and reintroducing traditional music to communicate climate threats, risk reduction measures and concrete response measures.

This component will build cultural spaces to recover traditional practices and promote inter-generational dialogue and learning, with the participation of women, youth and community

[59] In Colombia - Pasto, Nariño. In Ecuador – Tulcan, Carchi and San Lorenzo, Esmeraldas.
[60] IPCC. 2014. *Articles 4 and 5*

elders. All training will involve the equitable participation of men and women. Such spaces include community events to present and discuss climate threats and responses. Importantly, a portfolio of studies will be produced to document traditional and local knowledge for community climate change adaptation and food security, including the identification of adaptation measures that include gender considerations and target women and girls. Specifically, the studies will drive the introduction of concrete adaptation measures through: 1) inventories on native species resilient to climate variability; 2) an inventory of ancestral and native foods that can improve dietary diversity; and 3) a feasibility analysis on transforming ocean, forest and crop species into higher value products and marketing these products (medicinal plants, grains, fruits, vegetables, fodder, and shellfish) for local and regional exchange and trade (See Table 2). These inventories will be completed jointly with community leaders and will be shared in print and online with relevant stakeholders, such as the Colombia-Ecuador Neighbor and Integration Commission and the Colombia-Ecuador Binational Border Commission –COMBIFRON.

With a focus on generating knowledge, exchanging practices, sharing study findings, and promoting a better understanding of climate threats and adaptation solutions, cultures will be strengthened and communities become more cohesive. Strengthened binational institutional and community capacities will lead to more informed decisions on climate change and food security and nutrition, with culturally and gender-sensitive actions. This component includes two outcomes and seven outputs aligned to activities which aim to increase awareness at binational, territorial and community levels.

TABLE 2
Studies and Analyses in Component 1

Study	Description
Traditional practices	Inventory of tree and plant species resilient to climate variation (extreme changes in temperature and precipitation levels)
	Inventory of ancestral, traditional and native food crops that can improve dietary diversity and planting practices that are resilient to climate variability
Increasing value added of native species	Feasibility analysis on the potential to transform and market native species (shellfish from mangrove ecosystems) and crops (medicinal plants, grains, fruits, vegetables and fodder) for exchange and regional markets

Outputs 1.1.1 and 1.1.2 will build a compendium of information on traditional and local practices for climate change adaptation and food security and nutrition as described above. Through knowledge sharing events such as workshops and cultural fairs (***Output 1.1.3)***, the results of these studies will be disseminated at binational (the Colombia-Ecuador Neighbor and Integration Commission), territorial and community levels to inform decision-making on climate change adaptation responses, conservation of ancestral knowledge and biodiversity and income generation opportunities, with gender considerations and a focus on food security and nutrition practices.

Outputs 1.2.1. and 1.2.2. will focus on training activities to effectively promote dialogue and the exchange of experiences between different actors including territorial authorities, nutritionists, community leaders, ensuring the equitable involvement of youth, community elders and women in Afro and Awá communities. Events will involve the equitable participation of men and women. These knowledge and information-sharing events will focus on inter-generational exchanges between elders and youth on how to adapt to climate

threats, mitigate risks, recover, conserve and transform traditional native species for medicinal use, diversify family diets and sell agricultural products. A gender sensitive approach will be integrated in all training modules and awareness campaigns. Under ***Outputs 1.2.3.*** **and** ***1.2.4****.,* lessons learned and best practices on community risk reduction and management actions from communities will be compiled and shared with community leaders, governmental entities, and binational commissions through a web-based platform. This platform will incorporate lessons learned from previous ENSO phenomena and consider local context and ecosystem type and emphasize traditional and local knowledge. The platform will be managed on a regional basis, and is expected to involve binational entities such as the Colombia-Ecuador Neighbor and Integration Commission.

2) **Component 2:** Increase binational, institutional and community capacities to sustainably address recurrent climate risks, particularly those that affect food security and nutrition

Objective: *Strengthen knowledge generation to effectively plan, design and implement adaptation responses in highly food insecure communities, considering emergency preparation and response actions.*

All activities under this component will enhance scientific knowledge and community understanding of climate change threats and potential adaptation solutions, linking food security and nutrition with an ecosystem perspective. Currently, Afro and Awá territories lack adequate planning information and tools at territorial and regional levels. With increasing climate variability, changes in crop cycles and rainfall patterns and extreme events, communities are facing growing unpredictability, and, thus, vulnerability. Therefore, this component will help build a concrete scientific knowledge base about the binational watersheds as a means to enhance community capacities to respond to climate threats, complementing existing climate scenarios at national levels.

Scientific studies include: climate variability and extreme event vulnerability analysis in the binational watersheds, water provision and hydro-climatic risks evaluation in the binational watersheds considering the importance for irrigation and human consumption, native species and crop vulnerability to increasing temperatures and a baseline ecosystem vulnerability assessment (See Table 3).

To link traditional and local knowledge with scientific information, these national climate scenarios and new scientific studies will feed into culturally and gender-sensitive EWS and climate services in binational communities, with agro-meteorological data enhanced, and vulnerability mapping networks adapted to the micro-watershed level. Threat mitigation recommendations will also be provided, based in traditional and local knowledge. A key aspect of the EWS and climate services will be recommendations on agro- and hydro-climatic management related to important forest, mangrove and crops species for promoting dietary diversity, as well as recommendations tailored to women. Information will be collected, processed and managed at the local and regional levels to strengthen articulation with national hydro-climatological networks. A needs assessment will be conducted to evaluate local capacities for messaging services, looking at different modes of communication depending on level of access and preferences at the community level. Thus, communities will have concrete information on climate threats and appropriate risk reduction and risk mitigation measures at micro-watershed level. In coordination with Ecuador's National Institute of Meteorology and Hydrology (INAMHI) and IDEAM, the project will

identify climate information gaps in the border region and establish monitoring stations in strategic areas as necessary.

Emergency preparedness and response (EPR) training with regional community leaders, government officials as well as women, youth and community elders, will ensure that the appropriate territorial institutions will have the capacity to respond to the threats identified in the climatic studies and interpret and implement EWSs in local contexts. All EPR training will be coordinated with national disaster management authorities Regional EPR workshops will involve technical experts from binational commissions such as the Colombia-Ecuador Neighbor and Integration Commission and the Colombia-Ecuador Binational Border Commission –COMBIFRON. This will provide opportunities to strengthen binational risk assessments and contingency planning efforts. All scientific information will be customized to Afro and Awá community needs and the EPR training will involve traditional and local knowledge on emergency response and mitigation measures. Scientific information and workshops will be translated into local languages in easily understandable materials, depending on literacy levels.

Importantly, under this component, climate change adaptation and risk management will be incorporated into territorial planning. The plans will be adjusted to prioritize adaptation measures including appropriate budgets, in accordance with national climate scenarios and vulnerability analyses that are part of the National Communications on Climate Change to the IPCC. This will support decision-making in both countries, as well as effective implementation of adaptation measures and incorporation of lessons learned at local and national levels. This component will additionally promote coordination between local, regional, national and binational authorities to guarantee project sustainability and replicability.

Outputs 2.1.1. will build a portfolio of scientific information on climate change threats and risks at the micro-watershed level, with a focus on binational mangrove forests. The project will analyze gaps in climate knowledge on the micro-watershed level and then fill these gaps, considering: climate variability and extreme events (local climate scenarios in the short, medium and long-term); water provision and hydro-climatic risks in the two binational watersheds important for irrigation and aqueducts; and an analysis on how native crops important for dietary diversity will shift along altitudinal lines due to increasing temperatures. Building on the Colombia and Ecuador National Communications on Climate Change, climate and environmental assessments will be carried out at watershed level, analyzing vulnerability of specific communities to climate change threats and level of ecosystem degradation.

Output 2.2.1. will focus on enhancing regional institutional capacity through improved climate services and climate information generated in ***Output 2.1.1.***, targeting binational institutions and regional leaders, not only in the Afro and Awá communities but also territorial governmental entities, including the Autonomous Decentralized Government (GAD) of Carchi and Esmeraldas, and technical agencies like IDEAM and Corponariño (the Autonomous Environmental Authority of Nariño). Binational EWS targeting the micro-watershed level will be strengthened by filling climate information gaps using seasonal forecasts, agro-meteorological data, and vulnerability mapping networks. Weekly and monthly radio bulletins (a total of five per month) will reach isolated communities in both Spanish and Awápit, the language of the Awá. A community participatory agro-climatic climate services focused on the timing of crop planting and harvesting cycles will be

developed jointly with the Afro and Awá, in accordance with their traditional experiences. Bulletins will be integrated with other climate services provided by national and regional entities in Colombia and Ecuador. These participatory climate services will monitor climate risks related to the following variables: shellfish productivity, crop growth, diversity and the cropping cycles. A needs assessment will be performed to analyze gaps in current information available to communities and the preferred medium for communication (radio, sms, and others).

Output 2.2.2. will conduct EPR training with regional women and men community leaders and government officials in the Mira-Mataje and Guaitara-Carchi watersheds, with at least 120 community leaders trained. These trainings will be coordinated and implemented jointly with the National Risk Management Secretariat (SGR) and the National Water Secretariat in Ecuador, and the National Risk Management Unit (UNGRD) in Colombia. They will link agricultural production with hydro-climatic threats, in order to build local capacity to identify and mitigate the impact of emergency situations. Mapping tools such as GIS will be used to view the potential social impact of natural disasters on the Awá and Afro-descendent populations. Activities with leaders will also include participatory agro-climatic assessments and analysis of climate predictions and crop vulnerability at the local level, in order to build local capacities to conduct such assessments and disseminate results as a preventative mechanism and improve decision-making.

TABLE 3
Studies and Analyses in Component 2

Study Theme	Description
Climate	A gap analysis to identify the information needs in priority micro-watershed territories, involving local and regional institutions
	Analysis of climate variability and extreme events in the binational watersheds- both on the coast and in the Andean region, considering local climate scenarios
	Analysis of water provision and hydro-climatic risks in binational watersheds important for irrigation and aqueducts, to identify the most at-risk areas to climate variability. Special consideration will be paid to threats and risks in dry forest and mangrove ecosystems. This includes a multi-temporal analysis of land-cover as well as identification of risk scenarios or landslides flooding and forest fires
	Analysis of native crop risk to changing temperature regimes in binational watersheds. This includes an analysis on how native crops and shellfish important for dietary diversity will shift along altitudinal lines due to increasing temperatures

3) **Component 3:** Reduce recurrent climate vulnerabilities through innovative community- and ecosystem-driven adaption measures that reduce food insecurity

Objective: *Strengthen adaptive capacity of highly food insecure communities to reduce climate risks and food insecurity and improve community resilience in targeted populations through concrete adaptation measures.*

This component will support community identification, planning, and implementation of concrete adaptation actions to enhance resilience to climate and environmental threats. Afro

and Awá territories are vulnerable not only to climate change and climate variability, but also to environmental damage from illegal commercial activities and the former conflict. While concrete adaptation activities are a means to improve ecosystem service provision, binational watersheds communities lack the capacity to implement large-scale conservation initiatives in their territories. All concrete adaptation activities will respond to the climate threats identified in component 2 and involve the participation of community youth, women and elders. In line with these climate threats and local priorities, communities will select from a portfolio of feasible concrete adaptation activities, which link scientific and traditional and local knowledge of Afro and Awá populations. These activities will be designed with support from local technical experts, including local universities, scientific research organizations and territorial government entities to ensure high technical capacity. All actions will be identified by the community through a participatory process that involves women, men, elders and adolescents, and incorporated in a community-level adaptation plan. These plans specify the adaptation measure, resources to be allocated, roles and responsibilities for development and maintenance of community assets, including community contributions. Specific results to be achieved will be highlighted in addition to the timeframe for completion of the activity.

The non-climatic drivers of deforestation, forest conversion, environmental degradation and social inequalities and marginalization are addressed differently by the Awá and Afro-descendent people. The former tend to increasingly adopt integral renewable natural resource management practices which will increase the effectiveness of their production initiatives. They also try to reduce the potential for squatters, logging, and mining within their lands. As for the Afro, the massive loss of traditional lands, has so far led them to increasingly rely on waged work, local trade and migration in order to cope with these non-climatic drivers.

By focusing on activities that strengthen environmental integrity and productivity, this component will help construct resilient ecosystems and agricultural systems, improve ecosystem service provision and strengthen institutional and community capacities to implement such measures even after the project end-date. This component will thus enhance natural resource and ecosystem integrity and integrate traditional and local knowledge for adaptation and contribute to reconciliation and peace-building.

A methodology that interfaces scientific and traditional knowledge will be developed in ***Output 3.1.1.*** with the participation of communities and scientific actors, in accordance with the Paris Agreement, Article 7. ***Outputs 3.1.2., 3.1.3., and 3.1.5.*** use a CbA approach, focusing on linking traditional and local knowledge with scientific information for climate change adaptation. Community-level activities considered under this component include the introduction of environmentally sensitive community water harvesting, storage and management measures as well as the promotion of sustainable land management practices, all contributing to both livelihood and risk mitigation objectives. Activities also include the cultivation and transformation of traditional products like cacao, banana, chiro, chilman, beans, corn, yuyo, chiangua and papacun, as well as of traditional medicinal plants. The use of native seeds that are resilient to climate variability, traditional farming techniques, as well as the introduction of organic and agro-ecological crop production practices will be encouraged to diversify risk and income sources.

The production of these native crops and medicinal plants, many of which provide important nutrients, will not only contribute to an improvement in the quality and diversity of diets in

targeted communities, but will also represent an additional income generation source particularly once they are transformed and market opportunities are identified for specific products. Potential commercialization opportunities already exist for local medicinal plants which have a very high value in local markets. Targeted communities need training in this regard, particularly in the identification of marketing opportunities in order to exploit this potential.

The additional income is expected to benefit in particular women members of Afro and Awá households, and women will be encouraged to take a lead in these transformation and commercialization related activities. The income generation opportunities associated with the production, transformation and commercialization of local products are also expected to reduce the necessity of Afro and Awá communities to resort to negative coping strategies which are environmentally damaging, such as resource extraction (through illegal mining and logging). As well, they present an alternative to the adoption of extensive agriculture and mono-culture production models (such as the production of rice, beans, bananas, corn and illicit crops).

Cost-benefit analyses of proposed adaptation measures will be conducted at the micro-watershed level to assess financial/technical viability of priority adaptation measures considering potential to reduce hydro-climatic risks on food security and nutrition (***Output 3.1.3.***). These adaptation activities will consider the climate threats and analyses in components 1 and 2, based on adjusted crop calendars considering climate variability and changes in rainfall patterns and temperatures (See Table 4).

Outputs 3.2.1. and 3.2.2. consider an EbA approach, focusing on integrating culturally-sensitive scientific information into the design and implementation of adaptation actions. Climate change has brought with it a new wave of vulnerabilities which, when combined with other social and natural threats, has greatly affected local peoples. The proposed project measures will respond to climate threats in the two watersheds (See Table 4) with actions that include training activities, reforestation, recovery of fish and shellfish stocks, and selection, storage and propagation of resistant native seeds. As these measures focus on use of the traditional knowledge of the targeted communities, they can be readily adopted and incorporated into the project. The project will also address the need for dependable sources and quality of water through appropriate technologies such as rainwater capture and harvesting, fog harvesting and water distribution systems.

One of the most popular forms of collecting water in this region is through installation of water-catchment tanks (aljibes) below the roofs of houses. This is amongst the most cost-efficient of methods to address water shortages including those which occur in the coastal mangrove forest area. These activities will also align with national priorities and programmes for ecosystem restoration. Measures will not only address the severe nutritional and environmental threats, but also promote gender equity, tap into sources of ancestral and traditional knowledge, and promote independent sources of food and income-generating activities. Communities will implement these measures jointly with technical support of experts from organizations such as Corponariño, decentralized autonomous governments of Carchi and Esmeraldas, MAE, MADS, the Ministry of Agriculture, Livestock, Aquaculture and Fisheries of Ecuador (MAGAP) and The Center for Tropical Agriculture (CIAT). These activities build on identified climate threats in the binational watersheds and complement activities based in local and traditional knowledge above (See Table 2). Incentives such as restricted cash-based transfers (CBT) may be considered to promote family agriculture,

healthy life-styles and nutrition. These incentives would be considered without discouraging frameworks of community-based asset creation models that are adapted to local practice, whereby community members collectively provide part of their time and labour to voluntarily participate in activities that will benefit the community (locally called “Mingas”).

A key focus in all of these measures is the empowering of women as providers for their families and communities while improving their livelihoods and addressing gender inequalities. The promotion of fish as a protein source and recovery of native species, as well as the creation of traditional gardens and agricultural plots will not only enable community food security, but also generate much needed income. In addition, community resilience to other aspects of climate change will be promoted. Overall, the project implementation approach will be uniform for all communities. Nonetheless, specific adaptation sub-activity methods in mangrove and forest zones will differ from other areas of the watersheds due to basic differences in aquatic and forest ecosystem types, as well as variables related to social, cultural and community structure.

All of the activities in Component 3 have been designed through a participatory approach with targeted communities in order to recover traditional knowledge, reintroduce native species, conserve soils, access clean water and recover degraded ecosystems for the 120 communities of focus. There are no major infrastructure activities in this project and there will be no adverse effect on the environment.

TABLE 4
Project Activities in Component 3

Livelihood Resource	Climate threat	Livelihood risk	Adaptation Solution (to address livelihood risks)	Sub-Activities
Soil	Drought Intense periods of precipitation.	Reduced soil fertility and productive capacity Landslides Loss of arable lands Loss of crop diversity and dietary diversity	Improvement of soil quality through the introduction and recovery of vegetation cover and use of good agricultural practices, to mitigate impacts of heavy rains in areas highly affected by erosion and drought	Vegetative recovery of affected soils Wind breaks *Terraces*, bunds and retention structures Introduction of agroforestry and silvopastoral systems Family gardens and introduction of organic products
Water	Drought Intense periods of precipitation which	Reduced water for human consumption and agriculture	Implementation of water storage, capture and harvesting systems to increase water availability for agricultural use and human consumption	

	contaminate water sources	productions Water source contamination		Community water reservoirs[61] Provision of potable water by rainwater catchment systems[62] Fog harvesting[63]
Ecosystems -Forest, Mangrove	Intense concentrated rains and accompanying land and mud slides	Reduction in ecosystems services- forest and non-wood forest products	Protection and regeneration of forest areas, incorporating ancestral knowledge	Native species seed collection and storage Establishment of nurseries Tree planting[64] to reforest and fill gaps Animal management to prevent encroachment
	Combined effects of repeated and persistent droughts, short and intense rainfall and abrupt changes of temperature	Reduced ecosystem productivity, availability of nutritious foods, subsistence opportunities and incomes (from ecosystem services)	Diversification of food production, consumption, leading to improved health of the population Recovery of traditional practices to ensure food security	Training Reforestation Ponds preparation for fisheries[65] Seed selection Commercialisation and transformation of products

[61] **Community water reservoirs** will be developed in open areas without any disturbance to surrounding natural resources including rivers or streams. All materials used will be eco-friendly and dimensions of such structures will be determined in close consultation with communities as well as government experts.
[62] **Rainwater catchment systems** will be at community level for domestic consumption of drinking water.
[63] **Fog harvesting** consists of a single or double layer mesh net supported by two posts rising from the ground. Water droplets that collect on the mesh run downwards due to gravity and channeled via pipes to a storage tank.
[64] **Trees** will be native varieties and will be verified by CIAT and the governments before planting.
[65] **Pond preparation** for fishery will be done in existing dried ponds or in open spaces without any disturbance to surrounding natural resources including rivers or streams. Fertilization of ponds will be organic.

	Reduction in rainfall; temperature increases	Reduced availability of fish, molluscs and forest products for consumption Reduced diet diversity (reduced protein intake) Reduced incomes	Increased adaptive capacity, through the recovery of mangrove and tropical forests to ensure sustainable livelihoods and food security	Protection of fish spawning areas through water level regulation Propagation of mangroves Development of supply chains and market access for fish, molluscs and forest products Barriers (vegetative or other natural materials)

B. New and Innovative Solutions to Climate Change Adaptation

As the border region is characterized by a multitude of challenges, innovative approaches that are sustainable and efficient are required. The proposed binational project has many pioneering aspects supporting the national strategies, international frameworks, geographical focus, targeted population groups and implementation mechanisms. The project's components have a potential to improve climate resilience, enhance levels of food security and nutrition, create economic opportunities, prolong peace, regenerate lost knowledge and provide an opportunity to combine scientific evidence with indigenous solutions.

The unique solutions provided by the project include: 1) leveraging climate and ecosystem services to strengthen community resilience with respect to food security and nutrition; 2) implementing solutions for adaptation, risk reduction and environmental recovery, combining traditional and local knowledge with scientific findings;[66,67] 3) strengthening culture and local economies by working with marginalized binational Afro and Awá communities to address their own climate threats and years of marginalization; 4) empowering women to be agents of climate change adaptation and identifying adaptation measures with gender considerations; and 5) using climate change adaptation as an approach for promoting reconciliation within watersheds impacted by the former conflict. In addition to the above, the following are the key features of the project:

- *Innovative approaches* - This project creatively combines institutional and community empowerment to address the interrelated challenges posed by climate change and environmental degradation and their effect on food security and nutrition. The

[66] Berkes, F., Colding, J. and Folke, C. 2000.
[67] Bandaranayake, W.M. 1998.

challenges of climate change and environment will be addressed through integrated approaches that promote resilience and peace-building. Strategically, introducing adaptation measures to support reconciliation and peacebuilding is ground-breaking, not only for Colombia and Ecuador but in and outside the Latin America and Caribbean (LAC) region. Knowledge and lessons learned from the implementation of the project can bring about a paradigm shift and be replicated and scaled-up in other regions. For example, WFP in Colombia has introduced a web-based platform to transfer nutrition messages, including recipes and the nutrition value of local foods. This platform can be expanded to include climate messages and early warning information.

- *Pioneering solutions* - Climate services will include the first binational EWS specifically tailored to Afro and indigenous community needs and government priorities in Colombia and Ecuador. Systems will be translated to local languages such as Awápit, adapted to local hazard risks and used in community decision making for adaptation planning. An existing web-based platform (NutriFami*)* developed by WFP in local languages will be adapted to include actionable information on climate threats, early warning messages and potentially market information. The project could potentially increase the number of meteorological stations where gaps exist in the network.[68] Additionally, the use of innovative solutions including fog harvesting for potable water supply and livestock watering would be considered based on a feasibility analysis in selected parts of the watersheds.

- *Generating climate information* – The project aims to expand and link regional monitoring networks with community risks, in order to improve both information quality at the national and information access for decision making at the local level. These monitoring networks cover both mangrove and inland ecosystems, allowing ecosystem detection of climate trends, anomalies and emergencies. Given the binational vulnerability to long term climate and short term weather phenomenon, and the importance of monitoring these events, the project proposes to strengthen and involve communities in the monitoring of marine indicators, providing valuable information for the Global Ocean Observing System (GOOS). The project will expand access to information that communities will be able to use for climate change adaptation planning, as the region has a low density of stations.

- *Capturing traditional knowledge* - This project will be the first initiative in Colombia and Ecuador which will use traditional knowledge from Afro and Awá communities for environmental conservation and adaptation planning.[69] In addition, the emphasis on reintroducing native species which are resilient in the face of diverse climate events will require a special focus on seed collection, propagation storage and dissemination. Other, similar efforts have only disseminated hybrid seeds, which in some cases has affected the ownership and sustainability of agricultural activities.

C. Economic, social and environmental benefits

[68] Subject to agreement with stakeholders, maintenance costs would be covered by local governments.
[69] https://www.minambiente.gov.co/index.php/component/content/article?id=1363:el-uso-sostenible-de-los-bosques-prioridad-de-minambiente-598

Afro and Awá communities in the binational watersheds are vulnerable to the impacts of climate change and climate variability, with already evident damage to their livelihoods, and food security and nutrition. By rehabilitating degraded and disaster-prone areas through an EbA approach, vulnerable populations will have better access to ecosystem services and safe water that will improve well-being and nutrition outcomes. Of critical importance is the sustainable provision of water for human, animal and production purposes. The sound management of water would allow for the introduction of new livelihood activities. The Awá specifically mentioned the idea of fish ponds and medicinal plant production. Using community participatory planning, reinforced with culturally and gender sensitive climate information, this project will inform in local adaptation as well as peace building, which are mutually reinforcing. The project will follow 'do no harm' principles and avoid any processes or activities that will fuel tensions in the binational territories. Enhanced local adaptive capacities will improve risk management and livelihood stability in the face of natural disasters and empower communities to cope with climate change.

The project will promote inter-sectorial coordination and territorial collaboration in line with binational agreements to ensure that economic, social and environmental benefits are integrated at all steps of project design and implementation. In the absence of this project, the baseline scenario would see continuing deterioration in ecosystem integrity and household food security and nutritional status, which could erode territorial stability in the post-conflict phase, affecting both sides of the border.

Economic benefits

Agricultural and productive activities occur in approximately 40 percent of the binational watersheds. Rising temperatures, decreasing precipitation, the increasing frequency of extreme events in micro-watersheds and sea level rise that floods agricultural lands threaten the sustainability of territorial agricultural economies through: 1) reduced crop yields of cacao and plantains; 2) reduced water access for livestock and human consumption; 3) reduced access to ecosystem services, including marine products; and 4) reduced market access due to flooding and landslide events. Through agro-forestry, agro-climatic early warning systems and ecosystem rehabilitation with native species, the project will sustainably increase incomes in the short and medium term, generating the following economic benefits:

1. Reduction in harvest and post-harvest losses and waste due to lack of information on temperature/rainfall patterns through the generation and sharing of traditional and scientific information linked to early warning and contingency planning.
2. Reduction in losses and damages to assets from landslides and mudslides through increase in vegetative cover for soil fixation.
3. Increased capacity to diversify planting and other livelihood strategies, considering climate variability through improved access to agro-climatic information from EWSs, training and the introduction and testing of diversified planting models.
4. Improved incomes from the cultivation, transformation and sale of native crops and products in regional markets based on feasibility studies, including less water intensive species such as moringa and others mentioned above.
5. Reduction in outmigration due to increased livelihood opportunities and a focus on recovering traditional practices and cultures, and their promotion through cultural events and training.

6. Increased benefits in sales with better demand for specific markets, for example organic products.
7. Better community coordination; when communities are organized, sales chains are reduced via direct market access, allowing farmers higher revenues from production.
8. Introduction of new techniques like permaculture, reducing agricultural inputs.
9. Improvement in yields and potential reduction in inputs requirement promoted by technical assistance and training activities.
10. Savings in expenses due to a better and balanced nutrition, preventing frequent diet related diseases. This could lead to a potential improvement in life expectation especially for the Awá people.
11. Reduced cost of purchased food, through the adoption of sustainable agricultural production for community and household consumption.
12. Increased ecosystem services, for example for the sustainable provision of wood as a reliable construction material.

Environmental benefits

Binational watersheds are vulnerable to the over use and degradation of soils, as 22.5 percent of the Mira watershed faces soil degradation and 4.3 percent registers soil over-use.[70] Thus, ecosystems are more vulnerable to climate threats and increasing climate variability through: 1) reduced absorptive capacity of ecosystems during extreme rainfall events; and 2) lowered ecosystem service provision of degraded ecosystems. Through reforestation of 3,000 ha of forest and 2,000 ha of mangroves, as well as forest restoration and water conservation activities, Afro and Awá communities will prosper from the following benefits:

1. Reduction in erosion and soil loss due to extreme climate events contributing to higher yields.
2. Increase in reforested and protected areas and forest related ecosystem services, including water and non-wood forest product provision, and wood for a variety of uses.
3. Conservation of biodiversity which would contribute to livelihood protection in addition to environmental benefits.
4. Rehabilitation of mangrove areas threatened by environmental degradation.
5. Maintenance of soil fertility and increased genetic diversity.
6. Reduction in monocultures, which also reduces use of insecticides and environmentally hazardous chemical fertilizers.

Social benefits

This project prioritizes women and vulnerable ethnic populations, which is in line with the Paris Agreement and the Constitutions of Colombia and Ecuador. Afro and Awá communities have faced historic marginalization, damage to their lands from climatic and anthropic events, as well as adverse impacts from Colombia's armed conflict. As mentioned above, in Afro and indigenous communities, women are particularly at risk due to gender inequality, gender-based violence and cultural barriers that affect their food security and nutrition. Despite making up more than half the population, women have not yet achieved equality in the economic, social, political and cultural power structures of Colombia and Ecuador. The project will contribute to gender equality, through strategies to empower women and girls with concrete commitments to ensure equal rights, access and

[70] According to WFP Colombia research team, 2016

opportunities for participation and leadership in the project, and in community decision-making.

The project will make a concerted effort to reduce the historical marginalization that has affected both Afro and Awá populations in the shared border regions of Colombia and Ecuador. In accordance with the Lima Work Programme, the project will proactively integrate gender-responsive climate actions and culturally sensitive programming through: a) training and awareness-raising for Awá and Afro female and male participants on issues related to climate change, culture and gender; and b) working with women to recover traditional and local knowledge for natural resource management and food security and nutrition (Component 1). Through these actions the project will generate the following social benefits:

1. Increased participation of Afro and Awá women in decision-making process for identifying, planning and implementing climate change adaptation strategies and actions.
2. Strengthened community organization and social cohesion and empowerment of both women and men to participate in activity planning and implementation.
3. Increased capacities of women, youth and elders to rehabilitate and manage natural assets contributing to the protection of natural resources, risk reduction and livelihood strengthening.
4. Diversified diets and improved nutrition through the promotion of native species and traditional dietary practices.
5. Increased commitment to reconciliation and peace-building through training and cultural events.
6. Improved water access and quality for human consumption, crop production and animal use.
7. Increased recognition of Afro and Awá cultures, particularly their traditional practices and knowledge.
8. Reduction in time dedicated to water supply and transportation, especially for women and children, due to better systems of water storage and management.
9. Recovery of traditional practices, including barter, can potentially increase associative capacity and leverage of community members to negotiate prices and products in markets.

D. Cost-effectiveness of Project Activities

The project is cost-effective and the regional approach supports cost-effectiveness in the following ways:

- *Resource efficiency* - Implementing concrete adaptation activities with community ownership is cost effective when properly executed and is the most sustainable means to achieve scalable and long-term results within the border watersheds. The cost-effectiveness of concrete adaptation activities, as outlined in Component 3, will be enhanced through a detailed cost efficiency analysis for each adaptation measure, using a methodology developed by WFP, which compares measurable outcomes with feasible options and risk analyses. This community-level analysis will help ensure that the most cost-effective options are implemented during project design and implementation (See Annex 11).

A financial feasibility study will be carried out to assess how to improve the profitability of marketing traditional and local species and products. The proposed project will build on and complement activities with the focus on food security and adaptation approaches such as CbA and EbA to address climate change threats. Through a regional approach, the co-benefits are doubled as one set of resources generate productive outcomes for two countries, which individual projects would have achieved using twice the resources (human as well as material resources).

- *CbA* - According to a CARE study,[71] CbA makes strong economic sense, leading to social, environmental and economic improvements even in a volatile and evolving environment. Projects in communities in Kenya showed that "investing £1 ($1.68) in CbA generates between £1.45 ($2.44) and £3.03 ($5.09) of wealth for communities". In the most conservative scenario, intervention costs were still 2.6 times lower than doing nothing to counter the impacts of climate change and extreme events (and then having to respond to disasters).

- *EbA* - Enhancing ecosystems resilience can restore natural protection against extreme climatic events. Several studies have suggested that EbA actions result in a greater benefit/cost ratio compared to the implementation of hard infrastructure. EbA can complement, or be substitute for, more expensive measures to protect vulnerable settlements and sectors.[72] For example, as natural buffers, ecosystems are often cheaper to maintain, and often more cost-effective than physical engineering structures such as dykes or concrete walls.[73] A cost-benefit analysis of all EbA activities will help ensure the long-term financial sustainability of project activities and outcomes.

- *Optimizing geographical reach* - Working at territorial levels will allow the regional project to reach approximately 30 additional communities in comparison with individual country projects[74]. This project will determine the most efficient routes to access remote areas, facilitating access to populations that migrate across the border. WFP sub offices located on both sides of the border are familiar with various logistical options that will generate cost savings, such as accessing remote areas from either Colombia or Ecuador, depending on input and transport costs and exchange rates at the time of implementation. Additionally, cross border actions will allow both countries to share information and avoid duplication.

- *Multiple co-benefits* - Protecting and enhancing ecosystems and biodiversity can provide social, economic and environmental benefits.[75] The multiple-benefits offer the opportunity to integrate adaptation priorities with development processes, for example the new Sustainable Development Goals, and Agenda 2030. The regional project will not only lead to more resilient systems, but also to the development of new jobs and new ways of thinking for communities as well as policy makers. Thus, the project and its adaptation focus will contribute to a win-win situation, with strategies that address multiple objectives aimed at minimizing anthropogenic stresses.

[71] Community-Based Adaptation In Practice: A global overview of CARE International's practice of Community-Based Adaptation (CBA) to climate change
[72] World Bank. 2009.
[73] Colls, et al. 2009.
[74] Estimation based on logistical costs for WFP in Colombia and Ecuador.
[75] Piran, et al. 2009.

- *Building national and regional capacities* - Working with binational territorial and regional institutions increases efficiencies and builds long-term capacities to respond to climate-change related disasters. The economic benefits generated from project interventions will be significant when compared with the initial investment, especially when considered at the decade time frame. The project will also address the issue of ad-hoc and small scale adaptation efforts through its binational watershed approach. The integrated focus on the management of natural resources, processes to recover ancestral knowledge to reduce and mitigate climate change related risks, and opportunities for income generation actions will increase the cost effectiveness. Using one set of resources to generate a menu of actionable solutions for communities in both countries, with replication potential generates cost savings and reduces duplication. Strategically located adaptation assets, meteorological stations and early warning systems at the land- scape level will lead to broader coverage and impact.

  Coherent approaches at a watershed- and binational-levels will help eliminate externalities and result in economies of scale which could be lifesaving in the case of preventing and responding to emergency situations. Finally, improvements in nutritional status generate savings for the family, community and national economies, especially if measured in disability adjusted life years (DALYs). Nutrition outcomes are crucial for achieving not only Sustainable Development Goal 2- Zero Hunger, but all other goals in the Agenda 2030.

- *Proven benefits of concrete adaptation measures* – Proposed concrete adaptation measures combining traditional knowledge of Awá and Afro communities with modern technologies reduce costs for communities. Additionally, proposed activities increase income and access to sources of nutritious foods and improve provision of ecosystem services. The project will be highly profitable for participating families, with a projected net benefit of up to 2,200 USD per family after the first year of implementation due to diversified and increased production and enhanced marketing opportunities.

- *Replication and scaling up of proven technological solutions* – An existing web-based platform (NutriFami*)* developed by WFP in local languages will be adapted to include actionable information on climate threats, early warning messages, and potentially market information. The existing system provides a cost-effective means of disseminating relevant information in a timely manner and avoids the duplication of establishing new information systems.

E. Alignment with National and Binational Priorities

The project supports binational and national climate change, development, food security and nutrition, and peace objectives in Colombia and Ecuador. These objectives align with a number of strategies and plans, including: the Binational Plan for Border Integration 2014-2022, the Colombia's National Food Security and Nutrition Plan 2012-2019, and the National Climate Change Adaptation Plan (PNACC), Colombia's National Development Plan, the Ecuadorian National Strategy for Climate Change 2012-2025, the Ecuadorian National

Strategy to Change the Productive Matrix, Ecuadorian Strategy for Equality and Poverty Eradication and the Ecuadorian National Plan for Good Living. Relevant binational, national and territorial plans which the project will complement and support are presented in Table 5, highlighting convergence at the component level.

The Governments of Colombia and Ecuador have developed a Neighbor and Integration Commission in order to more effectively coordinate binational agendas, initiatives and priorities. Under the framework of this commission, there are the following Binational Technical Committees: 1. Border Affairs, 2. Energy and Infrastructure, 3. Environmental Affairs, 4. Economic and Commercial Affairs and 5. Social and Cultural Affairs. This project aligns specifically with these committees by prioritizing environmental protection, culture and traditional knowledge, employment and income generation, and cross-boundary watershed management. The Colombia and Ecuador Neighbourhood and Integration Commission will benefit from this initiative as it will provide a basis for additional advocacy for bi-national projects and the implementation of projects closely associated with the priorities of both national Governments, local and regional authorities, and communities.

The project also aligns and supports the Environmental and Cultural Territorial Plan for the Awá and their local information collecting initiative, Traditional Knowledge Associated with the Conservation of Biodiversity. Lastly, the proposed project supports WFP's global mandate and the following strategic objectives: SO2 which supports food security and nutrition and rebuild livelihoods in fragile settings following emergencies; and SO3 which reduces risk and enables people, communities and countries to meet their own food and nutrition needs. The project also aligns with: Sustainable Development Goals 2 (Zero Hunger), 5 (Gender Equality), 13 (Climate Action) and 17 (Partnerships for the Goals).

TABLE 5
Relevant Policies and Links with Project Components

BINATIONAL		
BINATIONAL	***Binational Plan for Border Integration Ecuador-Colombia 2014-2022*** *promotes poverty eradication, peace and territorial integration for the Border Integration Zone Ecuador-Colombia (ZIFEC)*	***Components 1, 2 and 3***
BINATIONAL	***Binational Development Plan Colombia-Ecuador*** *guarantees the rights of nature and promotes global and territorial environmental sustainability, mitigation and adaptation measures to reduce economic and environmental vulnerabilities*	***Components 1, 2 and 3***
BINATIONAL	***Life Plan of the Grand Family Awá*** *recognizes the link between food security and nutrition and climate change and promotes the recovery of plants used in traditional medicine, ancestral farming practices and native seeds, as well as commercialization of native species*	***Components 1 and 3***
NATIONAL		
Constitutions		
COLOMBIA	***Colombian Constitution (1991):*** *Article 80. Establishes as a duty of the State, the management of the planning and use of natural resources to ensure sustainable development, conservation, restoration and*	***Components 2 and 3***

	replacement. Chapter XI establishes the Rights of Indigenous People in Colombia. Specifically, Article 7 establishes that the State recognizes and protects the ethnic and cultural diversity of the Colombian nation	
ECUADOR	***Ecuadorian Constitution (2008)**: Article 414 mandates that the State shall take appropriate and transversal measures for climate change mitigation and protect populations at risk. Chapter Four establishes the rights of communities, peoples and nations. Specifically, in Article 57, the Constitution outlines the right of Afro and Indigenous populations to freely uphold, develop and strengthen their identity, ancestral traditions and forms of social organization*	***Components 2 and 3***
National Development Plans		
COLOMBIA	***The National Development Plan 2014-2018** defines peace as an opportunity to reduce the economic and environmental impacts from the armed conflict and generate social benefits for affected populations and to drive the sustainable use of natural resources and climate change mitigation and adaptation. This plan aims to strengthen the synergies between adaptation and mitigation, based on socio-ecosystem adaptation and resilience in sectorial and territorial planning. Importantly for this project it also sets the Goal of Zero chronic malnutrition in Colombia and identifies the importance of territorial and differential approaches with a strong focus on ethnic populations*	***Components 1, 2 and 3***
ECUADOR	***The National Plan for Good Living 2013-2017** promotes adaptation and mitigation to climate change. Several of the objectives of the plan are to build spaces for social interaction and strengthen national identity, diverse identities, pluri-nationality and interculturality. It guarantees the rights of Nature and promotes environmental sustainability to foster social and territorial equity, cohesion, inclusion and equality in diversity*	***Components 1, 2 and 3***
National Climate Change Policies		
COLOMBIA	***The National Plan for Climate Change Adaptation (PNACC)** defines priorities for Climate Change Adaptation in Colombia, aimed to reduce risks and impacts related to climate change, and identify and take advantage of potential opportunities*	***Components 1, 2 and 3***
ECUADOR	***The National Strategy for Climate Change (ENCC) through Ministry Agreement 095** promotes the incorporation of climate change and risk management in different economic sectors to enhance emergency preparedness, response and recovery capacities. The GADs present their plans, programs and strategies for climate change to the national government for approval for incorporation into the national climate change plan*	***Components 1, 2 and 3***
National Food Security and Nutrition Plans		
COLOMBIA	***The National Food Security and Nutrition Plan 2012-2019** supports the national FSN policy with three main priorities: i) ensuring adequate supply and access to nutritious food; ii) social welfare and quality of life dimensions including nutrition education, prevention and reduction of malnutrition, and promoting healthy lifestyles; and iii) improved food and water quality linked to coordinated responses*	***Components 1, 2 and 3***

National Low-Carbon Development Policies		
COLOMBIA	***Colombian Low Carbon Development Strategy and the National REDD+ Strategy*** *encourages sectorial and regional planning processes to prepare for and mitigate climate-related disasters, and promote conservation and protection of natural ecosystems. These strategies hold Colombia to reduce carbon emissions by 20 percent under baseline by 2030*	***Components 2 and 3***
ECUADOR	***Ministerial Agreement 033*** *promote the use of* ***REDD+*** *in national development mechanisms to reduce national carbon emissions*	***Component 3***
LOCAL AND TERRITORIAL		
COLOMBIA	***The Safeguard Plan of the Awá*** *promotes education, health, inter-generational communication and cultural exchanges between different age groups. This plan identifies key priorities for the Awá, including food security and nutrition, human rights and mitigating environmental damage from the armed conflict and illegal economies. The plan emphasizes the important role that political autonomy and cultural development and preservation play in responding to external threats*	***Components 1, 2 and 3***
COLOMBIA	***Territorial Plan for Adaptation to Climate Change Nariño (PTACC – Nariño),*** *advocates for regional adaptation and mitigation to climate change actions to reduce carbon footprints through ecological restoration*	***Components 1, 2 and 3***
COLOMBIA	***The Ethno-Development Plan of RECOMPAS*** *promotes political consolidation, human development and sustainable use of natural resources. This strategy is based on identity, sustainable human development, peace and coexistence and institutional and organizational capacity building*	***Components 1,2 and 3***
ECUADOR	***Organic Code on Territorial Organization, Autonomy and Decentralization*** *supports the strengthening of decentralized government organizations to promote equitable sustainable development with community participation and empowerment*	***Components 1, 2 and 3***
ECUADOR	***Ministry Agreement 095:*** *provides mechanisms for Decentralized Autonomous Governments to present to MAE their strategies, plans and projects* ***Ministry Agreement 137:*** *offers a guide to local institutions on how to incorporate climate change in local planning processes*	
ECUADOR	***Life Plan of the Federation of Awá Centers of Ecuador (FCAE) -*** *outlines the objective and activities of FCAE, emphasizing the conservation of biodiversity and territorial strengthening as well as health and education*	***Components 1, 2 and 3***

F. Compliance with National AF Environmental and Social Policies

The proposed interventions will adhere to all national technical standards in both Colombia and Ecuador, particularly those relating to concrete adaptation measures, including mangrove protection, reforestation, water conservation and crop loss reduction. Ongoing

consultations with the following entities will take place at all stages of project design and implementation to ensure that all project activities comply with the relevant national technical standards:

1. Ministry of Environment and Sustainable Development (MADS) - Colombia
2. Ministry of Environment (MAE) - Ecuador
3. Ministry of Agriculture, Livestock, Aquaculture and Fisheries - Ecuador
4. The Autonomous Regional Environmental Authority of Nariño (CORPONARIÑO)
5. Autonomous Decentralized Governments of Carchi and Esmeraldas

The necessary safeguards will be incorporated into project design through environmental and social assessments and during implementation through the monitoring and evaluation components. The project will also comply with the Environmental and Social Policy of the Adaptation Fund and WFP's environmental policy. A complete screening of risks was completed (Annex 9) and controls will be put in place to ensure that the project will not exacerbate inequalities, negatively impact marginalized populations, or harm the environment.

To finalize the formulation of the project design, a number of actions were carried out with stakeholders to verify interest and commitment to the project and better define activities and strategies for each project component. Consultations were carried out at national level with MADS and MAE, and they were also fully involved in territorial consultations. Workshops were carried out in Colombia and in Ecuador to share the project concept and exchange lessons with government officials, Afro and Awá leaders and community members, civil society and UN agencies who have experience in the two targeted watersheds. These workshops were crucial for finalizing the project design, by understanding how current and previous projects have addressed the issues of climate, food security and territorial planning. In addition to updating stakeholders about the proposed project activities conversations highlighted the importance of avoiding duplication and coordinating actions.

Following on from the workshops, a participatory-based rapid assessment was carried out in both Awá territory and Afro territories. The assessment documented community perceptions of climate risks, possible solutions and how indigenous knowledge and practices should inform adaptation planning. An important result of the community work was the validation of community interest to participate in the proposed project. These activities facilitated the full screening of project compliance with the AF Environmental and Social Policy (Annex 9).

As well, a more detailed composite analysis of climate threats, environmental degradation and food insecurity was carried out based on micro-watershed and agro-ecological zones. This facilitated a better understanding of the different areas which are most vulnerable to described climate impacts. The results are shown in the maps (Annex 10) and associated analyses presented in a final workshop with key stakeholders on December 12th and 13th 2016. This served not only to validate the project strategy and prioritize adaptation measures in the two watersheds, but also to reconfirm commitment to the project from both Awá and Afro leadership.

G. Avoidance of Duplication

During the design process, all stakeholders, including donor- funded projects were consulted in order to avoid any potential duplication of efforts, resources or geographical coverage, and to ensure synergy between ongoing initiatives and the proposed project. While Colombia and Ecuador both have a range of climate initiatives in place, there is a clear gap in CbA and EbA projects, particularly binational projects and those with a focus on food security and nutrition in Afro and Awá communities. A review of current projects in the binational watersheds shows that there is no duplication with this proposal nor with any other multinational, trans-boundary or national organizations.

Importantly, this project will strengthen and build on current and former initiatives, and activities and territorial development plans that relate to climate change adaptation, food security, gender, nutrition and peace building. For example, the pilot project with FAO and WFP has provided important lessons-learned for diversifying production and developing marketing models for indigenous crops. Additionally, the role of women has been highlighted as crucial for convincing farmers to expand their cropping opportunities. As well, a UNICEF and WFP project in Awá communities highlighted the importance of women in bringing food and nutrition security messages and practices to remote and isolated communities suffering from high levels of malnutrition. Another example is the binational project implemented by World Wildlife fund which ended in 2016. The project developed processes and materials for addressing climate threats in Awá communities. While Table 6 shows a rich experience of projects in the targeted departments, the proposed project offers the unique opportunity to consolidate this experience and learning, and tackle the significant issues in the region which have yet to be addressed by any concrete climate change adaptation measures.

The project will also complement *The Plan Contract-Nariño* between the Government of Colombia and the Department of Nariño which aims to strengthen territorial capacities in order to promote sustainable development. The project aims at reducing inequity and Unmet Basic Needs in targeted sub-regions of Nariño which includes parts of the border area with Ecuador. This project promotes sustainable agricultural practices and water management, with a budget of US$112,797,992 over five years, but is ending in 2017. The proposed project will build on and complement *Plan* activities with the focus on food security and adaptation approaches such as CbA and EbA in order to address climate change threats.

The proposed project will be compatible with and incorporate lessons-learned from other border initiatives including the Catholic Relief Services Borderlands Coffee Project, which targeted smallholder coffee farmers on both sides of the Colombia-Ecuador border. Also, the project will coordinate with UNDP's small-scale work with the Awá at the micro-basin level in order to replicate best practices at a larger scale.

In Ecuador, the Global Environment Facility project entitled *Adaptation to Climate Change through Effective Water Governance in Ecuador* will provide vital lessons-learned on effective water conservation techniques with local communities. Additionally this project will build on Conservation International's *Chocó-Manabí Conservation Corridor Project*, which focused on territorial and cross-national environmental conservation to enhance ecosystem services provision for marginalized communities. Similarly, lessons-learned from midterm evaluation of the WFP Ecuador Adaptation Fund project entitled: *Enhancing Resilience Of Communities To The Adverse Effects Of Climate Change On Food Security, In The Province Of Pichincha And The Jubones River Basin*, will be directly incorporated into design and implementation of this project.

TABLE 6
Other Projects Implemented in the Area

Actor/Organization	Date	Objectives	Cooperation Network	Projects/Programs
Colombia				
Government of Nariño	Since 2013 – on going	Contribute to the social and economic development of border populations through joint actions with different local and regional actors	Commonwealth Group (Grupo la Mancomunidad)	Border Plan for Prosperity (PFP) Partnership projects specific to the border area especially those in the Carchi - Guaitara y Mira- Mataje basin
Government of Nariño	Until 2016	Share local knowledge on climate change, risk management, adaptation measures and tools Departmental Climate Change discussion forum for inter-institutional strengthening	Institutions participating in the Climate Discussion Table	Department of Nariño Territorial Plan for Climate Change Adaptation (PTACN) Climate Change Discussion Working Group- South Pacific Node
Government of Nariño	Until2016	Create incentives to change land use patterns where lands have been converted for cultivation of illicit crops	Presidential Pilot Implementation project RECOMPAS community projects Indigenous organization Corpoica – community of *Las Varas* Universidad de Nariño (*UNDENAR)*	Management of the Pacific Plan for substitution of illicit crops in Territories of the Awá people and in the Mira-Mataje River watershed Includes Community Awárds contest, food Security and Nutrition projects rice, sugarcane, and Cacao, agroforest systems and design of water supply and sewage systems in the border zone
Government of Nariño	Until 2016	BIO/3200 Ha Project, Science-based tourism in the Planada Reserve with emphasis on social innovation, economic collaboration, science and traditional knowledge	*Colciencias* program, Newton Fund, British Government, University of Nariño (UDENAR), Indigenous Organizations	Research and implementation of projects related to ancestral knowledge and culture with MADS Focused in Pialapi- Pueblo Indigenous Reserve (10,600 Ha)
Municipal Mayors of Communities	2016 to 2019	Increase knowledge on reduction and management of disasters Elaborate and carry out municipal Risk Management Plans According to Law 1523 of 2012	Municipal councils and risk management departments Municipal mayors of *Tumaco, Barbacoas y Ricaurte*	Risk management plans and community emergency preparedness plans for environmental and natural disasters
El Gran Sábalo Indigenous Reserve of the Awá	2014 to 2016	Local program development to strengthen women's capacities, guarantee their rights and children's	Members of the Binational Grand Family Awá (GFAB) and directly involved communities	Water – basic sanitation – education (intercultural, bilingual), healthy protective environments, human rights protection Protection and survival of cultural identity in protected zones

		rights, create protective environments for disadvantaged and vulnerable peoples		
Oxfam UK	April 2015 to March 2017	Promote equity and territorial rights for rural women	Direct implementation	Integrated water resources management, livelihoods and environment preservation from Awá and Afro Colombian communities to preserve their resilience with four communities in the municipalities of Ricaurte and Tumaco, Colombia Provision of water tanks, wells and food security gardens in focalized communities
United Nations High Commissioner for Refugees UNHCR	Until2017	Implement protection strategies for indigenous survivors of conflict violence and gender based violence	*Chacana*	Protection strategy for indigenous groups in Nariño Capacity building actions for the Women's Council of the Awá communities including training and equipment of radio station
FAO Colombia Ministry of Foreign Affairs	Until2016	Implement income generation and productive activities through technical support for cacao and rice production	*Alianza para la Solidaridad (APS)*	Social and local development in border areas through income generation for rice and cacao producers in the Tumaco municipality
United Nations Office Against Drugs and Crime UNODC	2015 to 2018	Provide alternative development opportunities for families in the municipalities of Barbacoas, Tumaco and Ricaurte who voluntarily eradicated illicit crops	*UNODC*	Alternative development and illegal crop substitution COL/K53 Income generation The program includes capital and equipment to grow legal crops in areas where coca was produced
National Natural Parks - Corponariño	2013 to 2016	Coordinate and maintain local and national protected areas	*Parques Naturales* *Unipa* *CamAwári*	Coordination of local reserves La Nutria – Pimam – Río Ñambi and national reserve La Planada Equipment and monitoring of the natural reserves in the project area
PS (Social Prosperity)	2015 to 2017	Livelihood strengthening activities with ethnic vulnerable communities at risk of physical and cultural disappearance or internally displacement in Ricaurte and Tumaco thorugh income generation, food security actions and local management Improve food access and consumption through food production and healthy habits promotion	*Fupad*	National social programs for ethnic communities, including IRACA Program and RESA Program
ICBF (Colombian Social Welfare Institute)	Until2017	Recover nutritional status of vulnerable children from 0 to 59 months suffering from malnutrition	*Unipa*	Nutrition recovery centers in semi-rural communities where medical attention is provided to children and pregnant women who suffer malnutrition
WWF	Until 2016	Strengthen organizational	*Corponariño*	Capacity Strengthening and knowledge generation, evaluation and diagnose of the

		capacities of Awá communities, through design and implementation of participative planning tools with local authorities and communities for environmental management Improve communication between relevant actors for the management of the Mira Mataje and Carchi Guaitara watersheds Produce and share information on food security and sustainable agricultural practices in Tumaco	*Foundation Water Seeds* *Foundation The Hummingbirds of Altaquer (FELCA)* *Corponariño*	physical characteristics of ecosystem services of the borders of the rivers Mira and Mataje Contribution to the improvement of livelihoods in forest areas, under sustainable management in Choco – Darien areas in Colombia and Ecuador Binational forum for the Mira Mataje basin
UNICEF-WFP	Until 2016	Strengthen capacities of community members in nutrition habits and healthy lifestyles, with an ethnic sensitive approach and in collaboration with community leaders.	*GFAB*	"Mensajeras de vida" programme, to promote nutrition education among Awá in remote areas and prevent Gender Based Violence.
WFP	2018	Support to Victims of Violence and Recovery of Livelihoods	National and local Governments, NGOs, Communities	Nutrtion support and education, local markets development, resilience building
Ministry of Environment and Sustainable Development (MADS)	2014-2022	Binational Agenda: Ecuador – Colombia. Colombia:National Plan for Adaptation to Climate Change (PNACC) Ecuador: National Climate Change Policy (PNCC)	MRE (Ministerio de relaciones exteriores) MADR (Ministerio de Agricultura y Desarrollo Rural) Cooperantes ONG Gobierno Exterior	GEF (Global Environment Facility): Plan Binacional manejo de cuencas Mira - Mataje, Carchi - Guaitara.
Ecuador				
Ecuadorian Presidency	On going	Binational integration	Foreign Offices of Ecuador and Colombia, SENPLADES and DNP	Binational Plan for Frontier Integration Ecuador Colombia 2014-2022

Ecuadoran Ministry of Environment (MAE)	2013-2016	Reforestation, conservation of natural forests	MAE, Conservation International, GEF	"Plan Socio Bosque" Forest Plan
Ministerio de Salud (Health Ministry)		Communitarian health centers	Health Ministry	Health Centers
HIVOS Ecuador	2014-2017	Recuperation of shellfish foods	Hivos International FEDARPON	Renewable natural resources, food security, income generation
Altrópico Foundation	Until 2015	Communal Conservation alternatives	WWF, FCAE	Binational Fair of Flavors, Knowledge and Field Seeds
Children and Lands United (NYTUA)	On going	Forest conservation and sustainable use of the ecosystem	MIES, Flora and Fauna International	Promotion of water facilities in the mangrove area
Iniciativa San Andrés	2016-2017	Environmental education, forest management	Universidad Luis Vargas Torres, MAE	Environmental education Center
World Vision	2015-2017	Protection of vulnerable people, promote food security and nutrition	MAE, MIES, San Lorenzo and Mira municipalities and rural parishes	Defense of human, nutritional and environmental rights of children
Ecuadorian Foundation of Populorum Progressio (FEPP) (aligned with Papal encyclical initiated in 1967)	2010-2017	Protection of vulnerable people, promotion of food security and nutrition	MAE, San Lorenzo local government	Land tenure issues, reforestation and environmental capacitation in San Lorenzo County
Afroecuatorian Federation of Collectors of Bio-aquatic Products in Mangroves of San Lorenzo (FEDARPOM)	On going	Protection of mangrove forests, support Afro communities to improve their well-being	HIVOS, MAE, FEEP	Sustainable use of mangrove resources, protection of mangrove forests in the Pampanal, Palma Real and Pianguapi islands

MOMUNE	On going	Women of North Esmeraldas/San Lorenzo county	CANE	Protection of women rights and promotion of income opportunities for them
CANE	On going	Afroecuadorians communities of the North of Esmeraldas	MOMUNE, FEDARPON, ABYA YALA	Territorial and cultural issues; recovery of the Palenque territory
Rural parishes of the Tulcan, Mira and San Lorenzo counties		Territorial management, human development	Ecuadorian State, MAE, WFP, NGOs, local communities	Territorial management, basic public services, promotion of local productive initiatives
WFP		Displaced people in the Ecuadorian-Colombian frontier zone	MAGAP (Agriculture Ministry of Ecuador)	Assistance to Colombian refugees addressing the risk of food insecurity

H. Learning and Knowledge Management

The project will emphasize the collection, analysis and dissemination of lessons learnt and best practices that might be beneficial to the design and implementation of similar future projects. Key outputs of the proposed intervention include knowledge generation as well as increasing capacities. Specifically, under *Output 1.1.3.* cultural spaces will be developed in Afro and Awá communities for elders and youth to engage in inter-generational dialogue about traditional practices for land management and food security and nutrition. Best practices on adaptation and risk reduction will be characterized and disseminated bi-nationally through the learning platform. (*Output 1.2.4.).* Study results on traditional knowledge as well as scientific climate vulnerability analyses will be shared at the community level in a culturally-appropriate manner, translated into local languages as required, as well as regionally and binationally (*Outputs 1.2.3. and 1.2.5.*). Early warning and climate information generated through scientific and economic analyses will be tailored to Afro and Awá communities and translated to the local context and disseminated broadly.

The creation of a knowledge-sharing platform to distribute climate research and analyses will streamline information-sharing, avoid duplication and extra costs and empower leaders and stakeholders at all levels to improve their strategic decision-making. By disseminating climate information to community leaders, regional decision makers and scientists, the project's investment will reach a wide audience and generate benefits for the entire LAC region. The project will also emphasize the generation, analysis and dissemination of lessons learned and best practices, with particular attention to adaptation responses most appropriate for indigenous and ethnic communities. Attention will be given to capturing the effectiveness of culturally sensitive adaptation approaches. Best practices will be shared through the binational knowledge platform as well as through local workshops and events. Of particular interest is capturing, documenting and sharing traditional knowledge and practices and their support for mitigating and improving food security and nutrition.

Furthermore, gender and adaptation approaches in culturally sensitive contexts will be documented and attention will be paid to documenting how CbA activities impact society

and create an environment of harmony and contribute to peace building. Lessons and case studies will be disseminated within and beyond the project intervention through:

- Existing national information-sharing networks and forums
- Public media articles in both national print and electronic media
- Local media news in local language

Where possible, there will be close collaboration - including national and regional workshops- with the Ministries of Environment of Colombia and Ecuador for national capacity building. Through partnerships with universities and research institutes such as University of Nariño, Colombia, CIAT and the State University of Carchi, lessons learned will be documented through the lens of national development policies and strategies. These policy documents will enable both governments to better plan rural development interventions keeping in mind existing community knowledge and EbA approaches for climate change adaptation planning.

I. The Consultative Process

WFP has worked in close coordination with MADS in Colombia and MAE in Ecuador to develop this project concept in support of binational and regional policies related to climate change adaptation, development, marginalized populations and peace. WFP held two bi-national meetings with government counterparts to share views on the concept, and to jointly identify priorities for the development of the concept note. This process was complemented by a series of bi-weekly and/or monthly meetings with stakeholders at national, departmental and territorial level. In addition, WFP sub offices held meetings with other relevant actors including NGOs and UN Agencies to discuss ongoing sectorial activities and experiences relevant to the project strategy.

Addressing climate change risks was explicitly stated as a priority by both ethnic groups, enhancing the potential for their collaboration and interest in this project. As ownership at various levels is essential for the appropriation and sustainability of approaches and activities, this project, through its participatory, cultural and gender approaches will base all planning and implementation on the results of these considerations. The capacity of community-based organizations to adequately address socio-economic and environmental risks associated with climate variability and change was identified by the representatives of both the Awá and Afro communities as key for the survival of their current way of life. Thus, communities in the targeted watersheds have identified climate change risk reduction as a priority which will help them strengthen their cultural identify. Through this project, a concerted process with communities will enable them to reinforce their strong collaborative culture to address the problems related to climate change that they have collectively identified. Also, there is a recognition that their subsistence and cultural models are closely associated with how they address the risks that affect nature and the resources provided. Thus, commitment to and ownership of the project from both the Awá and Afro communities is a low risk.

WFP engaged in a series of discussions with leaders of the Grand Family Awá, CANE and RECOMPAS in order to understand their perceptions of climate threats, their perceived vulnerabilities and possible opportunities to engage with WFP. A subsequent meeting was held to jointly identify their priorities for climate change adaptation, food security and peace under this proposed project. During these discussions, WFP worked with Afro and Awá

leaders to identify priority adaptation measures and potential roles of key territorial stakeholders for the development of this project proposal (Annex 2).

The project pre-concept note was circulated in Spanish to Afro and Awá leaders and decision makers for their review during their annual planning meetings. The draft concept note was also circulated to leaders for comments which were also considered in finalizing the approved concept note. Following approval of the concept note, WFP has continued to engage in a full range of consultations which have been expanded to include increased focus at the community level. This has enabled a detailed understanding of priorities, capacities and activity plans. These community-level consultations have included participatory perception exercises to capture the views of elders, adolescents, women, men and community leaders in order to understand local climate, environmental and social threats as well as adaptation opportunities and solutions.

J. Full Cost of Adaptation Reasoning

Component 1: Increase community awareness and knowledge on climate change risks and food security and nutrition in two border binational watersheds.

Baseline scenario

The governments of Colombia and Ecuador have solid political frameworks to address climate change and food security threats in their respective National Communications to the UNFCCC. As well, the binational agenda on border integration institutionally and conceptually lays out priorities related to climate change, food security and rural development. However, these measures fail to concretely address local adaptation to climate change challenges, especially in Afro and indigenous areas. As well, the important role that traditional and local knowledge plays in reducing community vulnerabilities to climate variability is not specified. Additionally, climate change adaptation measures in both countries typically focus on rural farmers rather than marginalized smallholders and those living in disperse watersheds.

The baseline scenario results in climate change adaptation measures continuing to be developed at the national level without leveraging local and territorial capacities and the exclusion of traditional and local knowledge to improve the range of adaptation options, especially in Afro and Awá communities. Without this project, traditional practices for environmental management and food security will not be systematized in a shareable manner and there will continue to be a lack of cultural spaces in which Afro and Awá communities can bridge cultural and inter-generational gaps to improve their nutrition food security and environmental management, and reduce the very real risks that climate change and vulnerability poses. Without this project, climate change adaptation initiatives in this region will face low local acceptability.

Additionality (with AF resources)

AF resources would support the recovery and integration of traditional and local knowledge to address climate change and food security and nutrition risks at the local level. The proposed project would facilitate this process by involving communities, particularly youth, elders and women, in planning and designing local solutions and collecting traditional practices for environmental management and food security and nutrition. Through a

participatory planning process and cultural spaces to encourage inter-generational dialogue, Afro and Awá populations will be empowered to drive local solutions to respond to climate threats. Additionally, conducting a feasibility study on the marketing of native species and products to territorial, regional and national markets will encourage livelihood diversification and a stronger family economy. Such actions will help increase the adaptive capacity of communities and the resilience of their cultural traditions and livelihoods.

Component 2: Increase binational, institutional and community capacities to sustainably address recurrent climate risks, particularly those that affect food security and nutrition.

Baseline scenario

Afro and Awá communities are particularly vulnerable to the impacts of climate change, specifically rising sea levels and temperatures and rainfall reductions. However, accurate information upon which to make critical livelihood decisions is not available and there is limited capacity to analyze, access and incorporate information. Accurate and specific climate information is critical to build capacity to adapt agricultural production to climate variability. While meteorological stations that record temperature and precipitation patterns exist, there is incomplete coverage and lack of capacity and political will to analyze data on a micro-watershed level. Importantly, information is not distributed to local communities due to a lack of local technical capacity. Furthermore, the private sector has little incentive to invest in these regions.

Even when climate scenario information is available on a national-scale, it is often not accessible by Afro and Awá communities because it is: 1) extremely technical and not customized to the micro-watershed level; and 2) not disseminated in local languages like Awápit, the local language of the Awá. There is limited coordination between scientific actors and local decision-makers in Afro and Awá communities and local institutions lack the capacity to analyze climate information and make informed decisions on climate vulnerability adaptation mechanisms. Scientific information also is not analyzed in conjunction with local knowledge and traditional practices to arrive at feasible solutions. Thus, projects tend to introduce solutions that are not traditionally appropriate in the context of Afro and Awá culture.

Additionality (with AF resources)

AF resources will be used to improve the scientific information on climate threats available to Afro and Awá communities in the border region. Specifically, the project's activities will support the compilation of a portfolio of climate studies relevant for the food security and nutrition of vulnerable populations. This climate information will be linked to communities through the development of participatory EWS as well as emergency preparedness and response training that are customized to prevention of local climate threats. All climate studies will be condensed and published in local languages and all training will be conducted with the participation of community leaders, elders, youth and women, in local languages.

By improving the delivery and accuracy of climate information for Afro and Awá communities, this project will enhance institutional capacity to respond to threats in a tailored, effective manner. This increases the adaptive capacity of local institutions and the resilience of their constituent communities. The project will undertake specific studies to identify feasible

climate resistant species and other adaptation solutions, combining scientific information on threats with traditional practices. This integrated focus will strengthen Awá and Afro institutional structures to address climate threats at the local level. WFP will work with community leaders to update territorial development plans with aspects of climate change adaptation and food security and nutrition based on the information generated in this component, in conjunction with Component 1.

As well, WFP will assist government entities in strengthening their threat, risk and vulnerability analysis capabilities by expanding its current Vulnerability and Analysis methodologies to overlay climate threats and monitoring changes in landscapes using GIS technologies.

Component 3: Reduce recurrent climate vulnerabilities through innovative community- and ecosystem-driven adaption measures that reduce food insecurity

Baseline scenario

Without the concrete adaptation actions proposed in this project, the baseline scenario would see continued deterioration in ecosystem service provision, food security and livelihood resilience. These trends will worsen in the long term as climate change risks advance, and in the short term with recurring ENSO threats. Unless concrete adaptation measures are developed considering traditional and local knowledge and implemented jointly with targeted communities, Afro and Awá vulnerability to climate variability and food insecurity will increase.

Additionality (with AF resources)

AF resources will be used to implement concrete CbA and EbA initiatives with local communities, contributing to adaptive capacity, food security, and nutrition and livelihood resilience. In the border region, there is a lack of understanding of appropriate and cost-effective adaptation measures for specific local contexts. Through cost-effectiveness analyses of the above adaptation approaches and actions, this project will customize adaptation measures to the local context leading to project efficacy, considering lessons learned from previous ENSO phenomena.

Another constraint is ensuring ownership of adaptation measures by Awá and Afro communities, as well as ensuring all proposed actions are in line with their culture and world vision. AF resources would support the transition from a focus on centralized planning to the implementation of concrete actions at the local level identified through participatory and culturally sensitive processes. While sector-specific projects are under implementation, they do not always promote an adaptation focus. They do not consider the impact on food security and nutrition which is a community and government priority. The proposed project would help make this transition by bringing together the Grand Family Awá, RECOMPAS and CANE with other territorial environmental entities to help implement the appropriate adaptation actions.

To promote food security and nutrition, four categories of adaption interventions have been identified based on meetings and planning sessions with Afro and Awá participation. These activities were prioritized based on a common understanding of climate threats and possible local responses to these threats with a focus on securing diverse diets and reducing

malnutrition rates. They include: 1) promotion of diversifying native species production and consumption including through the introduction of organic and agro-ecological crop production practices; 2) reforestation and natural resource conservation measures; 3) commercialization and marketing of traditional species to enhance livelihoods; and 4) water conservation and protection of water sources to provide clean water for consumption and irrigation. These interventions will be based on climate threats identified under component 2 and traditional and local practices and priorities identified under component 1. They will promote food security and nutrition by enhancing ecosystem quality, improving community resilience, agricultural productivity and the diversification of local incomes, taking into consideration both short-term and longer-term climate threats.

An important adaptation benefit comes from understanding how climate threats will impact the targeted watersheds and the related vulnerabilities of communities to these threats in their cultural context.

It is anticipated that AF resources will help to leverage additional resources from government entities or binational resources, and that documented successes, combined with awareness raising, will promote local spontaneous adaptation responses to climate change threats.

K. Sustainability of the Project

Several concrete strategies will help to achieve scalability and sustainability of project approaches and actions after the project end date. The most important element for achieving sustainability is building processes to guarantee ownership by the Awá and Afro institutions who will be implementing the project. Thus, ensuring that project approaches are culturally sensitive and derived from consensus within these population groups will determine the success of the project. Another important sustainability strategy relates to the importance given to capacity building in Component 2 and coordination between local, national and regional institutions. Building capacities at multiple levels to generate and disseminate relevant climate information and then integrate said information in local decision making processes will help ensure that a range of actors have a stake in promoting local adaptation actions.

Capacity building and coordination at the territorial and regional levels will provide a number of benefits after the project end-date, including trained government and community leaders in EWS management and emergency preparedness and response actions. After the project end-date, trained officials will be able to transfer their knowledge to other regional leaders in and outside of the binational watershed territories. To make certain that project initiatives continue after the proposed end-date, all adaptation initiatives will be implemented jointly between technical experts and communities, leaving the technical expertise in the community post-2022.

This project reinforces the binational framework and plans and thus replicable actions can be transitioned to binational plans and then coordinated by governmental institutions after the project is completed. The governments of Colombia and Ecuador prioritize decentralization and the role of departmental governments in peace construction and adaptation to climate change. Thus, the project will emphasize updating territorial and regional development plans with a food security and nutrition and adaptation perspective. The project will work to ensure that priorities are clearly set and that funding is allocated so

that future leaders will be able to expand the successful adaptation approaches to new areas with marginalized populations.

Under Component 3, environmental sustainability of proposed adaptation approaches and measures will be enhanced through detailed feasibility analyses, considering environmental, social and economic factors. Communities will be able to choose from the portfolio of adaptation interventions based on the local context and the potential of an intervention to produce a positive environmental and economic impact. This participatory approach will leverage local support for project implementation and help ensure project sustainability.

L. Environmental and Social Impacts and Risks

Checklist of environmental and social principles	No further assessment required for compliance	Comments	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	Relevant national, regional and territorial authorities were consulted during the proposal development process to ensure compliance with all relevant laws. All aspects of the project are aligned with current national government law and policies including those the National Plan for Climate Change Adaptation of Colombia, the National Strategy for Climate Change (ENCC) of Ecuador, among others as presented in Table 5.[76]	
Access and Equity	X	Through environmental, social and risk assessments, this project will ensure that no activity will interfere with access to basic services. This project will promote the equitable access to activities by youth, elders and women in targeted communities. The project will provide equitable and improved access to sustainable livelihood assets in a manner which considers gender roles of women, youth and elders within all targeted communities. All households in targeted communities will have fair and equal access to projects interventions through priorities carried out in conjunction with community leaders and project development plans. Participatory assessment will be carried out to ensure full and equitable participation of men and women and targeted ethnic groups.	
Marginalized and Vulnerable Groups	X	A needs assessment and a gender analysis will be carried out to identify the most vulnerable communities and groups in the targeted watersheds. Marginalized and vulnerable groups – specifically Afro-descendants and Awá populations - were consulted during the proposal development process to ensure	

[76] MADS. 2013a. La Propuesta de Preparación para REDD+ (R-PP), Versión 8.0. Bogota, Colombia http://www.minambiente.gov.co/images/BosquesBiodiversidadyServiciosEcosistemicos/pdf/Documentos-Redd/021013_r_pp_redd_v_8.0.pdf

		that their identified threats, priorities and mitigation measures are reflected. This project will empower these vulnerable groups to make decisions on concrete adaptation actions, valuing their traditional and local knowledge. This project will create a space for women, elders and youth to choose adaptation activities in a transparent and participatory manner. Additionally, this project will take into account traditional hunting and gathering practices of local communities and land property and customary rights. This element is of very low risk as the project, by design, focuses 100% on vulnerable peoples who have been marginalized by a combination of environmental degradation and social circumstances.	
Human Rights	X	This project affirms the rights of all people in the binational watersheds does not violate any pillar of human rights, in particular the ethnic groups and women.	
Gender Equity and Women's Empowerment	X	During the consultation process and project design phase, workshops focused on gender and the role of women in all project components. These consultations found that women have specific knowledge and roles in the recovery of traditional knowledge, including plants for medicinal use and food security. As well, women have an important role in water harvesting activities, thus women will assume leadership roles in planning, design and decision-making related to water provision under component 3. Through consultations with Afro-descendent and Awá women, project design and implementation will ensure that gender considerations are integrated in each activity. A context-specific gender analysis will be carried out, using methodologies appropriate to the Awá and Afro context in the two watersheds. This project will promote women leadership in public spaces and decision-making power for climate change adaptation and food security and nutrition. During activity selection, gender experts such as UN Women will be consulted to ensure that the project effectively responds to the unique needs of women and girls and promotes gender equity.	
Core Labour Rights	X	Incentives to participate in project activities could be provided through cash-based transfers in the framework of traditional community-based collective work efforts (ie Mingas), in line with local customs and practices. Any payment for labour activities will adhere to government and community approved codes and norms and will thereby ensure that core-labour right are adhered to. The project will ensure respect for international and national labour laws and codes, for any work that may be carried out in relation to the project. This includes the eight International Labour Organization Convention (ILO) core labour standards related to fundamental principles and rights of workers, as well as ILO Convention No. 169 which concerns rights of indigenous and tribal peoples.	
Indigenous Peoples	X	Extensive consultations and participatory planning with the targeted indigenous people– the Awá- will ensure that the project appropriately incorporates the priorities, needs and ownership of these populations in all	

		activities. All consultations will include a representative sample of the Awá community, including women, elders and youth as well as territorial leaders.	
Involuntary Resettlement	NA	NA	
Protection of Natural Habitats	X	By implementing ecosystem-based adaptation activities such as reforestation, water conservation efforts, land rehabilitation and restoration of ecosystem service provision, the project will ensure the protection of natural habitats in binational watersheds. Natural water sources to be conserved through this project will be provided protection from contamination from livestock (e.g. live fencing).	
Conservation of Biological Diversity	X	By working with Afro-descendant and Awá populations to rescue traditional and native plants and crop species, this project will support the conservation of biological diversity and increase ecosystem resilience. To ensure that project activities do not impact territorial biodiversity under component 3, the environmental assessment under component 2 will map potential risks to biodiversity in the project area. Additionally, this project will promote the storage of traditional and native varieties' species, including through seed banks to protect biodiversity.	
Climate Change	X	All project components and activities contribute to increasing local capacities to face climate change in the long-term and climate variability in the short and medium terms. Through component 1, traditional and local knowledge on adaptation will be collected and systematized. Under component 2, climate change threats will be identified using secondary data sources and scientific information available in the country, through organizations (i.e. CIAT). All findings will be shared with local communities, territorial leaders and other stakeholders. This will help ensure that the most up to dated information on climate trends and risks is incorporated in local planning and risk reduction measures. Through component 3, concrete adaptation measures will increase community resilience to climate threats and improve ecosystem service provision and food security and nutrition of vulnerable populations.	
Pollution Prevention and Resource Efficiency	NA	N/A	
Public Health	X	The project will ensure that the targeted populations will not face restrictions to their access to public healthcare. In fact, this project rescues knowledge on traditional medicine and opens cultural spaces for community elders to teach youth about medicinal plants and practices. By conserving watersheds and water provision in binational ecosystems, this project will promote improved access to clean water, reducing population vulnerability to water-borne illnesses. Complementary efforts (e.g. provision of mosquito nets where mosquito-borne illnesses are endemic) will ensure that communities avoid potential health hazards from project water conservation activities.	
Physical and Cultural Heritage	X	Under component 1, traditional and local knowledge will be recovered for environmental management and food security and nutrition and cultural spaces will be created to encourage the presentation of Afro-descendant and Awá heritage.	

		Ancestral knowledge and traditions will be the basis of developing adaptation plans in a culturally-sensitive manner.	
Lands and Soil Conservation	X	Through the ecosystem-based adaptation actions in component 3, this project will aim to rehabilitate lands and restore degraded soils through natural regeneration, planting of native nitrogen-fixing plants and reforestation. To ensure that soil protection activities efficiently promote food security and nutrition, this project will perform cost-benefit analyses of all concrete adaptation measures. Additionally, this project will prioritize local species and multi-species plantations and avoid the use of non-native and invasive species. Geo-reference maps will be produced to facilitate monitoring of all ecosystem-based activities.	

The 15 core indicators are an important checklist to ensure that projects to be carried out respect laws, people's rights, gender equity, heritage, and biodiversity and the environment. As well climate change and indigenous and marginalized peoples are key elements to be accounted for. This project in fact targets many of these core principles as part of project design, and actually focuses on gender and women's empowerment, conservation, climate change adaptation, disaster risk reduction, and the physical and cultural heritage of marginalized indigenous and Afro peoples of Colombia and Ecuador.

The core Social and Environmental Impact and Risk elements are front and centre in this Adaptation Fund proposal. The project has been designed using knowledge of best practices from other pertinent projects and through extensive consultations with the targeted communities and stakeholders, all relevant authorities, and with expert input from consultants who know the area and the communities. The adaptation measures to adapt to climate change are small-scale, culturally-appropriate activities selected by the communities and have virtually no negative environmental impact. In fact, due to the EbA and CbA approaches undertaken in this project, there will be a positive environmental and social impact. As such this Adaptation Fund proposal can be categorized as a **Category "C"** project.

Nonetheless, adaptation measures to be carried out as part of components 1 through 3 of the project are further screened for any potential environmental and social risks in the following section, Part III. A further evaluation and summary is included in Annex 9 along with an Environmental and Social Management Plan and Grievance Mechanism.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for Project Management

Project management, financial monitoring and reporting to the AF will be coordinated by WFP, the Multilateral Implementing Entity (MIE). WFP will provide technical, fiduciary and managerial support throughout all stages of project implementation. The project will be coordinated at the national level through WFP Country Offices in Colombia and Ecuador and through WFP sub offices at territorial level. Additional technical support will be provided by WFP's Regional Bureau in Panama and WFP Headquarters in Rome as required. MAE, MADS and the Neighborliness and Integration Commission and Binational Border

Commission will provide technical guidance for project implementation under their respective policies and programmes**.** Colombia's Presidential Coordination Agency (APC) will ensure appropriate involvement of key national actors**.** All emergency preparedness and response training will be coordinated with the National Risk Management Secretariat (SGR) in Ecuador and the National Risk Management Unit (UNGRD) in Colombia. The project governance structure will include territorial, departmental and provincial governments and promote coordination and articulation to ensure that all appropriate territorial entities are involved in planning, implementation and monitoring (Figure 1).

Project management will be coordinated through the Binational Steering Committee. This team will be composed of national level actors including MADS, MAE and WFP. The Binational Steering Committee will support effective project implementation and coordination. The team will integrate project strategies, approaches and activities in binational plans and strategies for border integration and territorial development plans. Specific responsibilities include: approving annual operational plans, following up with national authorities to ensure that technical standards are maintained, reviewing monitoring reports and ensuring alignment with the Environmental and Social Policy of the AF.

As the project aims to integrate local and scientific knowledge to better plan, design and implement adaptation responses, territorial execution will be managed by local Afro and Awá organizations, including the Grand Family Awá, RECOMPAS and CANE. These organizations are umbrella associations of indigenous and Afro territorial authorities and have existing binational coordination mechanisms, operating in the two countries. These organizations will implement concrete activities under Components 1 and 3, such as the collection and dissemination of traditional knowledge for food security and ecosystem service restoration. Technical assistance will be provided by organizations such as Corponariño and UN Women (see Table 7), with support from the departmental, provincial and municipal authorities such as the Autonomous Decentralized Governments of Carchi and Esmeraldas and the Office of the Governor of Nariño. A total of 19,867 participants distributed in 120 communities will benefit from the project, with 5,360 Awá and 5000 Afro in Colombia and 5,388 Awá and 4,119 Afro in Ecuador.[77]

A binational implementing partner will be selected after project approval for implementation in Colombia and Ecuador. This entity would be a non-governmental organization and would be selected based on its extensive experience working with Awá and Afro communities in both countries and implementing projects of resilience building and adaptation to climate change. A number of organizations have been already shortlisted, including *Fundación Altrópico, Fundación Hivos, Fundación Natura* and *Fundación Felca*[78].

Specific departments and provinces within the two binational watersheds will be prioritized based on vulnerability to climate threats and food insecurity as well as border proximity and local capacity to implement large-scale adaptation activities. This project will strengthen coordination among Afro and indigenous institutions and with national and local government institutions, promoting adaptation, peace building initiatives and the use of climate services

[77] Information based on Afro and Awá development plans, information provided by community organizations and national statistics offices in Colombia and Ecuador.

[78] A number of entities have been considered; however, only upon approval of the project can a final decision be made. *Fundación Altrópico* is one of the most likely candidates.

to better prepare for disasters. The possible technical partners to accompany activity implementation under components 1, 2 and 3 are listed in Table 7.

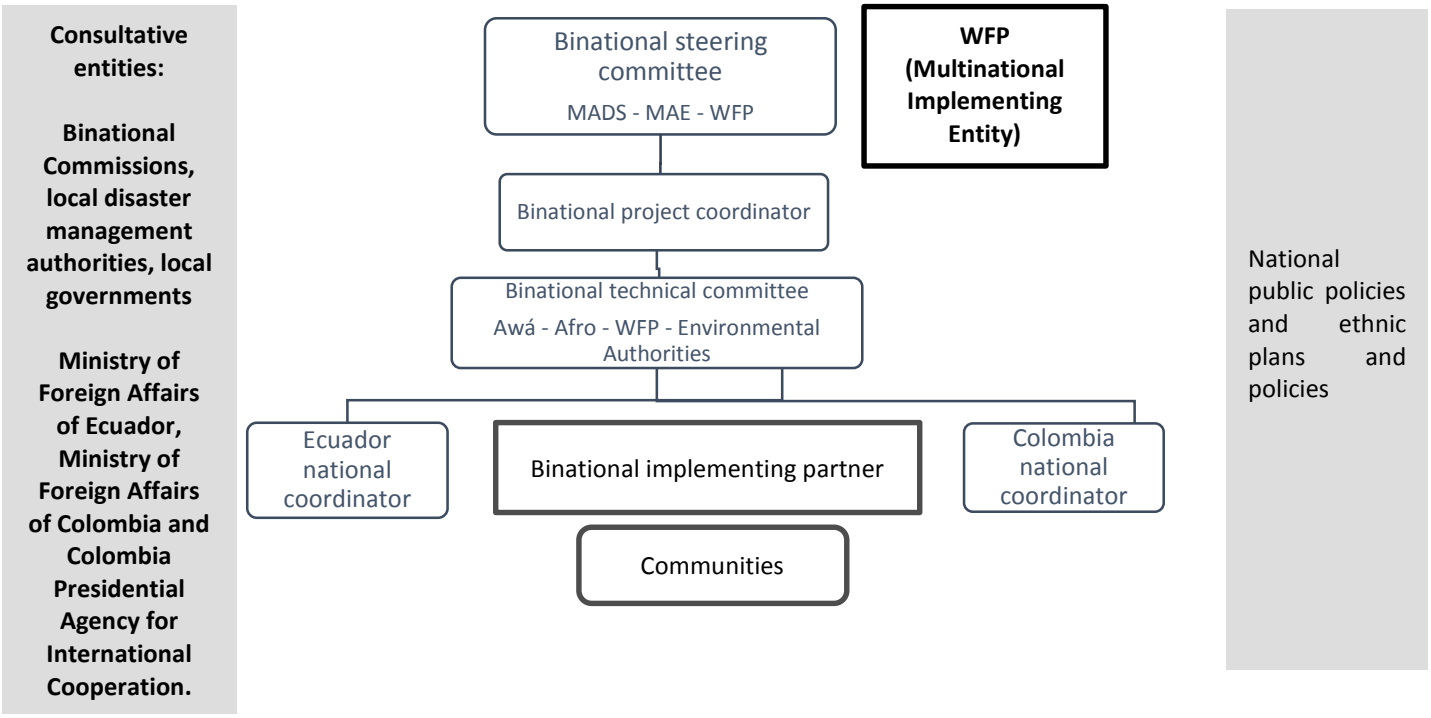
TABLE 7
Technical Actors and Links with Project Components

Country	Technical actor	Components	Role
Binational	CIAT	2	Climate information and mapping networks
	UN Women	1, 2, 3	Gender analyses, training and gender-sensitive adaptation programming
Colombia	MADS – Climate Change Office	1, 2, 3	Technical support in project implementation Ensure policy coherence at national level and complementarity with national efforts on Adaptation with climate change
	Department Climate Change Network of Nariño	1, 2, 3	Ensure coordination among right actors to provide technical and policy support for project implementation at regional level Avoid duplication of efforts
	Corponariño	2, 3	Early Warning Systems, seasonal forecasts, emergency preparedness and response training and the environmental impact assessments
	IDEAM	2	Climate, temperature and precipitation data for Colombia
	National Disaster Risk Management Unit (UNGRD)	2	Support to emergency preparedness and response training
	University of Nariño	1	Inventory on traditional practices and native plants and crops
Ecuador	National Secretariat of Water	3	Technical support on water management
	Ministry of Agriculture, Livestock, Aquaculture and Fisheries of Ecuador (MAGAP)	3	Technical support on agricultural practices
	International Center for ENSO Research (CIIFEN)	2	Seasonal forecasts and climate risk assessments
	INAMHI	2	Climate, temperature and precipitation data for Ecuador
	National Risk Management Secretariat (SGR)	2	Support to emergency preparedness and response training

Project Governance Structure

This project will be governed by a consolidated structure, which has been agreed upon by community leaders and relevant stakeholders, and will be aligned as follows:

FIGURE 1



MADS: Ministry of environment and sustainability of Colombia
MAE: Ministry of environment of Ecuador

Functions will be organized according to the table 8 below:

TABLE 8
Project Structure and Roles

STRUCTURE	MEMBERS	FUNCTIONS
Binational Steering Committee	MAE, MADS WFP Binational Manager will act as Secretary National Technical Entities will provide advisor support as required (IDEAM, INAME, MAGAP and	Meets twice a year to set project direction, priorities, budgets, and stakeholder alignment. Approves reports submitted to the Adaptation Fund. Coordinates with APC, SETECI, Ministries of Foreign Affairs Binacional sub commissions to ensure policy alignment.

	Ministry of Agriculture of Colombia)	Reviews monitoring reports Ensures alignment with the Environmental and Social Policy of the AF Approves annual operational plans
Binational Project Coordinator	Reports directly to the Steering Committee and is secretary to the Committee	Is responsible for the successful implementation of the project and is accountable for project funds. Oversees execution of all project activities. Facilitates relations with stakeholders. Coordinates and supervises the National Project Coordinators.
Binational Technical Committee	Local public institutions supporting implementation (Local Environmental authorities, Awá and Afro organizations)	Guarantees the alignment of project activities with national and territorial public policies, binational agreements between Ecuador and Colombia, and international environmental conventions. Ensures compliance and synergies with local and regional territorial plans, with special attention to Awá and Afro community plans (Life Plans). Endorses community level adaptation plan. Presents annual operational plans to the Binational Steering Committee.
National Coordinators Colombia and Ecuador	Specialists located in the project areas of the respective countries, reporting to the Binational Coordinator	Plan, coordinate and oversee implementation of project activities. Accountable for project funds. Ensure full coordination and participation of Awá and Afro leaders and communities. Coordinate assessments that will support activity planning. Coordinate implementation of the planned activities of the project; Present community adaptation plans to the Binational technical committee. Prepare annual reports and coordinate monitoring exercises. Documents lessons learned.
Binational implementing partner	Specialized entity with technical, administrative and management staff members as needed, under the supervision	Develops planning tools and processes with communities, executing entities and local technical experts. Finalizes targeting of communities. Work with communities to develop adaptation plans.

	of the national coordinators	Is Accountable for project resources. Participates in ongoing monitoring exercises. Ensures gender approaches are fully implemented. Provides quality and timely technical inputs. Mitigates and risks or tensions that develop during projection implementation.

B. Project Risk Management

Financial and project risk management measures will be assessed throughout project design and implementation. Potential risks and response measures are described in Table 9.

TABLE 9
Financial and Project Risks and Response Measures

Risk	Category	Response Measure
Revaluation of the Colombian Peso	Low	The project will make transactions in dollars when possible to avoid currency fluctuations. When transactions in Colombian peso are needed, financial measures will be taken (monitoring, expenditures on time).
Change of government or other key stakeholders in Ecuador or Colombia which negatively affects the project	Low	Any change in governments or mandates will be assessed by Binational Steering Committee. Binational and National Coordinators will liaise with officials to explain the project and anticipated outcomes. Evaluation of potential changes in lead-up to election in Ecuador (2017) and Colombia (2018) will be carried out. Project objectives and outcomes are in line with binational and national climate change and food security policies, thus preventing a major change in policy direction. The risk is also minimized through project coordination among stakeholders at national (MADS, MAE), departmental and local levels (Grand Family Awá, RECOMPAS and CANE).
Tension between ethnic communities and regional institutions affects implementation and project benefit allocation	Low	Project management will monitor and will continue to assess and manage the relationships through training activities and meetings.

		Clear and fluid channels of communication between community members and leaders, local authorities and partners will be enforced.
Deforestation continues due to agricultural intensification and illicit economies	Low	This risk is reduced by employing agro-forestry techniques as well as minimizing vegetation clearing and reclaiming wetlands, waterways, forests or woodlots. Land use will be matched to land capability. It will be verified at project outset and emphasised during implementation that no clearing of natural forests will occur due to the project. Reconfirm quarterly.
Project does not adequately achieve results at a landscape level (geographical target area not fully covered) due to political and security factors	Low	Activities under component 2 will sufficiently analyze climate threats by agro-ecological zone. Communities will receive training and incentives if required to actively participate in selected activities. Climatic events will be monitored; and a GIS mapping of project activities will be undertaken. Meetings with stakeholders will be organized to emphasize the importance of micro watershed planning, and will be the basis of all planning exercises.
Gender empowerment and equality not fully supported by male-dominated leadership	Low	Based on semi-annual evaluation, WFP's participant feedback mechanism will be activated as needed. Women as CC adaptation participants/leaders monitored from outset. Semi-annual evaluation, annual reporting. Program design actually focuses on women as leaders of CC adaptation. Their role and ability to be recognized will be assessed at project outset and semi-annually.
Communities lose interest because results are more longer term or illicit economies or extractive crops are more attractive	Low	Baseline analysis of existing extractive crops, communication with local, regional, national governments regarding any plans for new plantations. Culturally sensitive participatory methods will be developed and used, and ownership approaches promoted in all activity implementation. This risk will be mitigated by integrating participatory approaches at all stages of the project. Community based monitoring and perception studies will be carried out. Families will be motivated to participate in productive activities through the emphasis on marketing and commercialization, as well as

		family consumption of traditional nutritious species.
Actions which include western science or technology are not fully embraced by Awá due to conflict with their cosmo vision perspective	Low	This risk is identified for project components 1 and 2. These will be fully developed and adopted by communities and leaders before identifying and finalizing community adaptation plans.
Lack of territorial capacity to implement technical activities	Low	The risk is minimized through the support of technical organizations like Corponariño, CIIFEN, IDEAM and CIAT, who have worked with Afro-descendants and Awá in the border regions in climate change adaptation, water management and agro-forestry. These entities will provide specialized assistance and technical capacity as required.
Scientific and technical information on climate change in the border region is incomplete	Low	While precipitation and temperature trends in the border region are available, this information is raw and not analyzed. The project promotes the generation of scientific information, including micro-watershed vulnerability analyses and climate trend analyses. Climate change awareness activities in local languages will take place with the executing entities before project implementation begins. These training will establish strong awareness at the community level on climate change threats.
Appropriation of traditional knowledge and practices by third parties	Low	This risk is minimized by protecting communities' intellectual property of traditional knowledge and practices. Appropriate regulation and policy recommendations will be considered.
Risk of extreme climate events which could setback gains if activities are not properly designed	Low	Colombia and Ecuador experience extreme events on a yearly basis, and agricultural based activities must be designed to account for landslides, mud slides and flooding. EWS will help mitigate such environmental risks.
Lack of coordination between different entities (regional, territorial and national governments)	Low to Medium	By establishing a binational cross-sectorial project implementation team, communication between different stakeholders will be facilitated and streamlined. This risk is minimized through project coordination among stakeholders at national (MADS, MAE), departmental and local levels (Grand Family Awá, RECOMPAS and CANE). Also, By establishing a binational cross-

		sectorial project implementation team, communication between different stakeholders will be facilitated and streamlined.

C. Environmental and social risk management

Environmental and social risks will be measured and mitigated through the monitoring of specific indicators identified by environmental authorities and Afro and Awá organizations. These indicators will be incorporated in the project results framework. WFP Country Offices are responsible for tracking implementation progress and impacts on social and environmental concerns on a biannual basis. Given that the project emphasizes a participatory and transparent approach to activity selection and aims to reduce the vulnerabilities of communities and ecosystems to climate change in the two binational watersheds, there is a low risk of failure to comply with the Environmental and Social Policy of the Adaptation Fund (See Table 10). In line with the AF results framework, the following indicators will be measured: percentage of targeted population aware of predicted adverse effects of climate change and of appropriate responses, percentage of households and communities having improved access to livelihood assets and ecosystem services and natural resource assets maintained or improved under climate change and variability induced stress.

TABLE 10
Environmental and Social Risks and Response Measures

Risk	Category	Response Measure
Water-harvesting techniques such as water ponds result in contamination of above ground drinking water sources	Low	This risk is minimized through the following actions: 1) ponds will be located away from farm drainage channels; 2) ponds will be protected from contamination by livestock through fencing; and 3) communities will receive mosquito nets where malaria is prevalent and training on proper water management techniques. Water harvesting methods as well as sanitary measures and/or filtration to ensure potability will be assessed from a cultural and economic perspective. Point of use (PoU) purification methods will also be assessed.
Introduction of drought resilient species reduces interest in native species	Low	Any introduced seeds, must first be verified by CIAT and the respective Ministries of Agriculture.

The Environmental and Social Policy of the Adaptation Fund is consistent with Colombian and Ecuadoran environmental laws and social policies, which are designed to ensure that activities or interventions do not create or contribute in any way to social or environmental harm. This proposal's overall objectives are designed to increase community resilience and food security and nutrition through concrete climate change adaptation measures. Through consultative processes with local community and representative groups a number of measures have been brought forward to better livelihoods and increase community resilience, promoting gender equity and utilizing traditional knowledge as a basis for planning the adaptation measures. The 120 targeted communities in the project have been selected due to their specific needs to develop such resiliency in the face of an unpredictable climate and a dwindling or degraded natural resource base. Based on participative approaches, and considering the type of resilience-building activities outlined in Components 2 and 3, it is unlikely that adverse social or environmental impacts will occur. However, should any negative effects arise as a result of the project they are likely to be reversible, small in scale and limited to a local or community level.

To summarize, the risks identified for the 15 environmental and social principles of the Fund in section L, Part II have been described there and are not further considered as major risks to the project. Other risks, which are listed in Annex 9, are addressed there briefly and those related to the project are also included in Tables 9 and 10 of Part III along with their appropriate response measures. These measures are designed to avoid or minimize risks, or, where necessary, manage an associated risk. Additionally, project implementation procedures are designed to avert any such risks, and are consistent with the environmental and social policy of the fund. Individual risk management actions are part of the overall project Risk Management Plan described in Annex 9 along with an Environmental and Social Management Plan (ESMP) which can be used to screen elements of component 3 of this project during implementation, and a grievance mechanism (the WFP Feedback Mechanism). The WFP Feedback Mechanism to address possible grievances has been used when necessary in previously implemented programs and projects. During implementation, should changes in any identified risk or new risk be detected, the plans and response measures which have been outlined will be activated in order to address them.

Based on the Risk Screening exercise and following the Environmental and Social Policy of the Fund the overall risk ranking for this project is **Category C** (see details in Annex 9). Described risks will be monitored starting from project outset, and should any risks arise they will be managed according to the measures outlined. This will be carried out in alignment with the project management structure and through consultation with any affected communities.

D. Monitoring and Evaluation Arrangements

Project monitoring and evaluation (M&E) will be carried out in accordance with WFP procedures, under WFP supervision. WFP will assume financial oversight of the project and provide information on a regular basis in conformance with AF operational regulations. To facilitate coordination on outcome monitoring and evaluation the project management team the Binational Steering Committee meetings will take place at least twice per year.

In addition to quarterly reports, technical reports and a yearly financial audit, specific M&E activities to be undertaken include the following:

A **Project Inception Workshop** (IW) will bring together all stakeholders for project implementation within the first two months after project approval. Through this workshop, stakeholders and local leaders will build project ownership and identify priorities for first year of implementation. This workshop will involve local leaders and community youth, women and elders. A supervision plan will be agreed upon by relevant stakeholders during this workshop.

An **Annual Progress Report** (APR) will be prepared by the Binational Steering Committee and evaluate yearly project progress, using identified M&E indicators. The APR will identify yearly objectives and targets, lessons learned and risk mitigation measures, as well as relevant financial information. The data for monitoring will consist of financial, procurement and physical progress reports as well as compliance with the requirements of the environmental and social assessment and management frameworks, along with financial audit reports. It will also include measures considered in the risk management plans proposed in Section B of Part III.

A **Mid-term Evaluation** will take place at the mid-point of project implementation (October 2019). The MTE will determine progress made toward outcome achievements, assess financial, social and environmental risks and pinpoint corrective actions as required. It will present initial lessons learned on project implementation and management. The findings of this review will be incorporated in a midterm report.

A **Final External Evaluation** (FEE) will be undertaken by the project team, WFP Country Offices and external consultants during the last six months of project implementation (September 2021 - March 2022). The FEE will analyze project impact and sustainability in improving binational capacities to reduce climate and food security and nutrition vulnerabilities. The findings of this review will be incorporated in a final report.

A detailed monitoring and evaluation budget is presented in the table below:

TABLE 11
Detailed monitoring and evaluation budget

Activity	Responsible parties	Budget (does not include staff time)	Timeframe
Project Inception Workshop	Project manager and WFP	20,000	Within first three months after project approval
Mid-term Evaluation	External Evaluator/ Technical Consultants and Binational Coordinator	15,000	At mid-point of project execution. 30 month. Estimated for January of 2020.
Final External Evaluation	External Evaluator/	60,000	End of project cycle

	Technical Consultants and Binational Coordinator		
Final audit	External evaluator/ WFP	50,000	End of project cycle
Annual Progress Reports	Binational coordinator/ national coordinator/ monitoring assistants	40,000	Yearly
Project monitoring	Binational coordinator/ national coordinator/ monitoring assistants	28,700	Four times a year

E. Project Results Framework

Project strategy	Objectively verifiable indicators				
Goal	Reduce vulnerability and food and nutrition insecurity of Afro and Awá communities in the Mira-Mataje and Guaitara-Carchi binational watersheds to the adverse effects of climate change				
	Indicator	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Impact: To reduce food and nutrition insecurity through climate change adaptation measures	Afro and Awá communties' vulnerability reduced, with increased capacities to confront climate variability	Communities vulnerability is rated high	Community vulnerability is low to medium by the end of the project	Perception surveys	Climate change measures are long-term and the project may not consider long term climate variabilities
	Dietary diversity score	Four items in household diet	Increased dietary diversity to seven items in household diet	Household surveys	Communities have access to diversified nutritious foods
	Binational capacity strengthening score	Climate risks related to FSN are not articulated in local plans	Institutions strengthened to incorporate adaptation and risk reduction measures in plans	Focus groups Final project report	Capacity-building is long-term and the project captures all changes in institutional capacity
Objective 1: Recover with full participation of Afro and Awá communities traditional knowledge and capacities to manage climate change risks and food security and nutrition in targeted binational watersheds,					
Outcome 1.1. Traditional and local knowledge recovered to support sustainable adaptation measures, food security and nutrition, and resilient livelihoods	Ancestral knowledge and practices recovered in support of adaptation and food security	Ancestral knowledge is being lost and not used in adaptation or development planning or implementation	By project end, ancestral knowledge and practices will be included in the design of adaptation measures and local planning	Focus groups Site visits Study on use of traditional species (baseline and end of project)	Communities willing to share traditional and local practices for adaptation and food security and nutrition

Output 1.1.1. One study per watershed produced on traditional and local practices, promoting resilience to climate change and variability in the targeted binational watersheds, with community participation and particular attention to ancestral and native plant and tree species that can improve dietary diversity and are resilient to climate change	Number of studies on traditional and native species	No studies related to traditional and native species and uses for resilience and dietary diversity	Two watershed-level studies produced on 1) tree and plant species resilient to climate change and variability in the binational watersheds; and 2) ancestral and native species that can improve dietary diversity and are resilient to climate change and variability	Monitoring of study quality and dissemination	Communities willing to share traditional and local practices for adaptation and food security and nutrition
Output 1.1.2. Feasibility study conducted with communities to assess the potential for marketing native species for medicinal, artisanal, food and fodder related uses at regional and departmental levels	Number of studies on marketing traditional and native species	Limited knowledge on market opportunities for native species	Three feasibility analyses of potential marketing of native species with community participation	Monitoring system and community-level interviews	Communities consider the value and benefit of marketing of traditional species for commercial purposes and participate in analytical exercises
Output 1.1.3. Workshops, dialogues and cultural events (including fairs) organized to disseminate study results to 120 Afro and Awá communities, leaders and decision makers, in local languages. Equitable participation of men and women will be promoted	Number of events to disseminate information	No previous events to raise awareness and no existing use of traditional knowledge for adaptation and food security in the border region	At least 10 workshops and cultural events organized to share and disseminate study results with 120 Afro and indigenous communities, leaders and decision makers, in local languages There is an equitable participation of men and women	Focus groups	Once information is shared, leaders at different territorial levels will use this information for planning purposes

Outcome 1.2. Traditional knowledge related to climate change threats and adaptation measures integrated in community dialogues and decision-making processes	Traditional knowledge on climate change and adaptation generated, disseminated and integrated into adaptation and development territorial planning processes	Traditional knowledge not used in adaptation or food security planning or activity implementation	By project end, ethnic communities receive support in integrating climate-related ancestral knowledge into Life Plans and Safeguard Plans	Monitoring Focus groups	Outside influences do not reduce the importance of traditional knowledge and acceptability by communities
Output 1.2.1. In 120 communities, leaders, community members and women groups trained on climate change threats with culturally and gender sensitive methods. Equitable participation of men and women will be promoted	Number of communities and leaders trained Number of women trained	Limited awareness of climate change threats and impacts on gender	By project end, leaders and community members in 120 communities trained in climate change threats, using culturally and gender-sensitive methods There is an equitable participation of men and women	Focus groups Surveys with community leaders	Community and leader participation in training is less than expected Communities agree to high levels of women participation
Output 1.2.2. Dialogues, fairs and exchanges involving 120 communities, leaders and community members on food security, nutrition and healthy living habits, considering climate threats, with special focus on diversifying diets and increasing incomes from the production and sale of native species and products. Equitable participation of men and women will be promoted	Number of communities trained Number of women trained	Limited awareness of food security, dietary diversity and diversifying livelihoods	By project end, 120 communities trained There is an equitable participation of men and women	Focus groups Surveys with community leaders	Community and leader participation in training is less than expected Communities agree to high levels of women participation

Output 1.2.3. One binational web-based adaptation learning platform in use	Number of learning platforms	Lack of information and learning sharing in binational watersheds	By project end, one binational learning platform in place and used by communities and local authorities	Community surveys Focus groups	Complementarity will be sought with other existent platforms Technical capacity to engage in the binational platform
Output 1.2.4. Compilations and sharing of best practices on risk reduction and risk management actions at binational watershed level, considering ecosystem type and emphasizing traditional and local knowledge	Number climate risk reduction and management best practices Number climate risk reduction and management best practice sharing events	Lack of information on best practices in risk reduction and management in border region Lack of spaces to share knowledge on risks	By project end, twelve best practices compiled from each binational watershed on risk reduction and management By project end, one knowledge sharing event per watershed on risk reduction and management	Community surveys Focus groups	Community and leader participation in knowledge sharing events
Objective 2: Strengthen knowledge generation to effectively plan, design and implement adaptation responses in highly food insecure communities, considering emergency preparation and response actions					
Outcome 2.1. Increase scientific knowledge to manage climate change and risk, affecting food security and nutrition	Scientific studies tailored to binational contexts, considering traditional knowledge and community priorities	Limited scientific climate information accessible for Afro and Awá communities and decision-makers	By project end, 120 communities will have access to scientific climate risk information at the micro-watershed level	Monitoring system through community-level interviews	Scientific studies completed by external experts rather than community members

Output 2.1.1. Studies at the binational watershed level produced on: 1) water provision considering climate threats; 2) ecosystem vulnerability in the face of climate change and variability and extreme events; and 3) food security and nutrition in vulnerable communities	Number of scientific studies	No knowledge of water provision and ecosystem threats due to climate change	By project end, at least one study on each of the following: 1) water provision and climate risks in two binational watersheds; and 2) ecosystem vulnerability due to climate change and variability and extreme events	Monitoring system through community-level interviews	Information provided in appropriate form for communities to use Information incorporated into EWS
Outcome 2.2 Risk reduction capacity of binational institutions and communities strengthened, including leveraging climate services	Disaster preparedness score	Limited disaster preparedness and response mechanisms	Disaster preparedness score equal to or greater than 7, indicating local government capacity in disaster preparedness ad food security information with WFP support	Focus group discussions Survey data on disaster risks Final project evaluation	Local government capacity increased sufficiently to manage climate change risks
Output 2.2.1 Binational Early Warning Systems introduced, specifically tailored to inform the Afro and Awá communities about extreme events. Additionally, climate services will be introduced to include agro-meteorological data; vulnerability mapping, with a focus on crop yields and cycles; and climate risks in mangrove and high-mountain ecosystems	Number of early warning systems Number of climate information products/services provided for decision making	No Afro or Awá directed early warning systems or climate services for agro and hydro-climatic data	By project end, at least one EWS in place covering all targeted communities with at least 20 nodes at community level, and territorial organizations able to take appropriate response actions following protocols	Focus group discussions Site visits to see the EWS and climate services Final project evaluation	Technical community capacity to implement early warning systems tools and protocols as well as climate services

Output 2.2.2. Approximately 120 leaders and community members trained in Emergency Preparedness and Response and understanding and planning for climate threats	Number of EPR training	Limited Afro and Awá capacity to prepare or respond to emergencies	By project end, at least five training conducted targeting 120 leaders Training of community members include equitable percentage of men and women	Site visits Community surveys	Information accepted by local communities and acted upon
Objective 3: Strengthen adaptive capacity of highly food insecure communities to reduce climate risks and food insecurity and improve community resilience in targeted populations through concrete adaptation measures					
Outcome 3.1. Improved access to livelihood assets, enhanced resilience and reduced risks from climate shocks in food-insecure communities and households	Percentage of households and communities having more secure access to livelihood assets	Limited adaptive capacity in Afro and Awá binational watershed communities	By project end, 100 percent of targeted communities in the binational watersheds have created assets which reduce risk to climate change	Focus group discussions Survey data Final project evaluation	Activities planned taking into consideration community livelihood activities and without enforcing traditional gender roles Strong institutional coordination exists
Output 3.1.1. Participatory approaches developed, interfacing scientific and traditional knowledge	No of methodologies developed to integrate scientific and traditional knowledge	No methodology established	By project end, participatory approaches enables communities to incorporate both scientific both scientific and traditional knowledge to reduce climate risks	Final project evaluation	Communities willing to make available their traditional knowledge
Output 3.1.2. Effective adaptation measures designed and implemented incorporating participatory approaches, traditional and local knowledge and tested techniques to recover of degraded ecosystems in 120 communities	No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability	Adaptation measures not customized to local context	By the end of the project, created assets support the sustainable recovery of degraded ecosystems Target to be developed with baseline information	Survey data Field visits Final project evaluation	Participatory processes promote ownership of adaptation activities Sufficient technical assistance available to implement quality projects in territories

	and change (by type and scale) Time saved due to adaptation measures for women and men Number of community based adaptation plans	Men and Women spend excessive time gathering water, fuelwood, etc. Communities in the area of intervention do not have adaptation plans	120 community-based adaptation plans		Adaptation measures, if not well designed, increase workloads, especially during initial implementation phase Community members and leaders cannot agree on concrete adaptation measures
Output 3.1.3. Community water harvesting, storage and management measures introduced	Number of communities with improved access to water for agriculture and consumption Number of people with improved access to drinking water	Limited community access to water resources Water is not purified and especially children's nutrition is affected by unclean water	By the end of the project, up to 120 communities adopt water management measures according to community plans Up to 120 communities, clean drinking water is made available	Survey data Field visits	Participatory processes promote ownership of water management activities Communities do not manage and maintain purification measures
Output 3.1.4. Cost-benefit analysis of proposed adaptation measures at micro-watershed level	Number of cost-benefit analyses	Little research completed on the cost or benefits of proposed adaptive measures	By the end of the project, cost-benefit analyses implemented for each adaptation measure, on a watershed level	Baseline and final project evaluations	Information from analyses incorporated into community-level planning and decision-making regarding the selection of adaptation measures

					Women are actively involved in decision making processes
Output 3.1.5. Native species reintroduced to diversify production and consumption and for commercialization, including introduction of organic and agro-ecological crop production practices and ocean species	Number of communities that reintroduced limate resilient native species Type of income sources for households generated under climate change scenario Percentage increase in household incomes from ecosystem services and agricultural systems	Low levels of utilization and protection for native species Communities do not market native species	By the end of the project, 120 communities increased land area dedicated to the cultivation of native crops Targeted households develop one alternate income source At least 10 percent increase in household monetary incomes through introduced adaptation measures	Survey data and analysis	Community is open to reintegrating native species into diets and economy Products can only be sold within traditional exchange system which does not generates cash revenue There is a demand for native species Lack of production is due to other reasons, including government policies
Outcome 3.2. Increased adaptive capacity and ecosystem resilience to respond to climate threats and food insecurity	Number of natural assets implemented	Limited number of natural assets in place to withstand or adapt to climate change events	Activities implemented according to community plans	Focus group discussions Field visits Final project evaluation	Communities will manage assets after project end
Output 3.2.1. Soil management activities implemented, including agro-forestry and native nitrogen-fixing species	Number of ha	Limited soil management activities	At least 3,000 ha degraded land recovered using agro-forestry and nitrogen fixing species	Focus groups Field visits	Community is responsive to agro-forestry

Output 3.2.2. Conservation and recovery of 3,000 ha of forest ecosystems and 2,000 ha of mangroves threatened by climate change through tree planting and forest management actions, at the micro-watershed level, with species that are native and resistant to climate variability, in line with national plans	Number of ha	Lack of effective protection of native forests and mangrove populations	At least 3,000 ha of forest and 2,000 ha of mangroves protected and recovered	Field visits and monitoring system	Special interest groups do not impede the introduction of protection and conservation measures

Adaptation Fund Core Impact Indicator "Number of beneficiaries"					
Date of report		9th January, 2017			
Project Title		Building adaptive capacity to climate change through food security and nutrition actions in vulnerable Afro and indigenous communities in the Colombia-Ecuador border area			
Country		Colombia and Ecuador			
Implementing Agency		World Food Programme (WFP)			
Project Duration		2017 - 2022			
		Baseline	Target at project approval	Adjusted target first year of implementation	Actual at completion
Direct beneficiaries supported by project		0	**19,867**		
Gender	*Female direct beneficiaries*	0	10,144		
	Male direct beneficiaries	0	9,724		
Ethnic group	*Afro*	0	9,120		
	Awá	0	10,748		

Indirect beneficiaries supported by project		0	**72,700**		
Gender	*Female direct beneficiaries*	0	39,258		
	Male direct beneficiaries	0	33,442		
Ethnic group	*Afro*	0	32,630		
	Awá	0	40,070		

F. Project Alignment with AF Results Framework

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Objective 1. Recover traditional knowledge and capacities to manage climate change risks and food security and nutrition in targeted Afro and Awá areas in the binational watersheds	Binational capacity strengthening score	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	**2.1.2** Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	1.781.500
	Dietary diversity score	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	**3.1.** Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	

Objective 2. Strengthen knowledge generation to effectively plan, design and implement adaptation responses in highly food insecure communities, considering emergency preparation and response actions	Binational capacity strengthening score	**Outcome 1:** Reduced exposure to climate-related hazards and threats	**1.** Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	1.881.800
		Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	**2.1.2** Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	
Objective 3. Strengthen adaptive capacity of highly food insecure communities to reduce climate risks and improve community resilience in targeted populations through concrete adaptation measures	Afro and Awá communties' vulnerability reduced, with increased capacities to confront climate variability	**Outcome 5:** Increased ecosystem resilience in response to climate change and variability-induced stress	**5.** Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	8.120.500
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	**6.2.** Percentage of targeted population with sustained climate-resilient alternative livelihoods	
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	
Outcome 1.1. Traditional and local knowledge recovered to support sustainable adaptation measures, food security and nutrition, and resilient livelihoods	Ancestral knowledge and practices recovered in support of adaptation and food security	**Output 3:** Targeted population groups participating in adaptation and risk reduction awareness activities		655.800

Outcome 1.2. Traditional knowledge and adaptation practices integrated in community dialogues and decision-making processes	Traditional knowledge generated, disseminated and integrated into adaptation and development territorial planning processes	**Output 2:** Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	**2.1.** No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	1.125.700
		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	
Outcome 2.1. Increase scientific knowledge to manage climate change and risk, affecting food security and nutrition	Scientific studies tailored to binational contexts, considering traditional knowledge and community priorities	**Output 1.1:** Risk and vulnerability assessments conducted and updated	**1.1.** No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale)	1.001.300
Outcome 2.2. Risk reduction capacity of binational institutions and communities strengthened, including leveraging climate services	Disaster preparedness and risk reduction scores generated	**Output 1.2:** Targeted population groups covered by adequate risk reduction systems	**1.2.** No. of early warning systems (by scale) and no. of beneficiaries covered	
		Output 2: Strengthened capacity of national and sub-national centres 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	880.500

		Output 7: Improved integration of climate-resilience strategies into country development plans	**7.1.** No. of policies introduced or adjusted to address climate change risks (by sector)	
Outcome 3.1. Improved access to livelihood assets, enhanced resilience and reduced risks from climate shocks in food-insecure communities and households	Community adaptation asset score (natural and physical)	**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	6.440.500
Outcome 3.2. Increased adaptive capacity and ecosystem resilience to respond to climate threats and food insecurity	Community adaptation asset score (natural and physical)	**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)	1.680.000

G. Detailed Budget

TABLE 12
Activity-wise Budget for the Project

Outcome / Output	Activity			Y I	Y II	Y III	Y IV	Y V	TOTAL
Component 1		**Sub-Total Component 1**	**Notes**	**479.200**	**548.500**	**218.400**	**251.300**	**284.100**	**1.781.500**
1.1.	1.1.1.	**Total Activity 1.1.1**		**169.200**	-	-	-	-	**169.200**
		Local Consultants	- Experts with relevant experience on collection of traditional practices and knowledge	99.300	-	-	-	-	99.300
		Travel	- Travel costs of consultants	49.700	-	-	-	-	49.700
		Workshops & meetings	- Logistical costs of workshops to complete proposed studies	20.200	-	-	-	-	20.200
	1.1.2.	**Total Activity 1.1.2**		**56.400**	**-**	**-**	**-**	**-**	**56.400**
		Local Consultants	- Expert responsible for completing a feasibility study of the potential for marketing native species	46.600	-	-	-	-	46.600
		Travel	- Travel costs of consultants	9.800	-	-	-	-	9.800
	1.1.3.	**Total Activity 1.1.3**		**110.300**	**319.900**	**-**	**-**	**-**	**430.200**
		Local Consultants	- Experts on activities 1.1.1 and 1.1.2 with experience working with Awá and Afro communities	-	99.300	-	-	-	99.300

		Travel	- Travel costs of consultants	24.800	49.700	-	-	-	74.500
		Workshops & meetings	-Logistical costs of workshops, dialogues and cultural events	82.800	165.500	-	-	-	248.300
		Miscellaneous expenses	- Incidentals	2.700	5.400	-	-	-	8.100
1.2	1.2.1.	**Total Activity 1.2.1**		**56.400**	**56.400**	**28.300**	**29.100**	**30.000**	**200.200**
		Travel	- Travel costs of the implementing partner team	24.800	24.800	12.400	12.800	13.200	88.000
		Training	- Costs of proposed training exercises, including experts and logistical costs	30.300	30.300	15.200	15.600	16.100	107.500
		Miscellaneous expenses	- Incidentals	1.300	1.300	700	700	700	4.700
	1.2.2.	**Total Activity 1.2.2**		**24.300**	**48.400**	**25.000**	**25.800**	**26.500**	**150.000**
		Travel	- Travel costs of the implementing partner team to complete dialogue, fairs and exchanges	11.700	23.300	12.000	12.400	12.700	72.100
		Workshops & meetings	- Logistical costs of dialogues, fares and exchanges	12.400	24.800	12.800	13.200	13.600	76.800
		Miscellaneous expenses	- Incidentals and stationery	200	300	200	200	200	1.100
	1.2.3.	**Total Activity 1.2.3**		**-**	**30.000**	**40.000**	**40.000**	**40.000**	**150.000**
		Contractual Services	- Specialized services to create a web-based platform and provide technical support and maintenance	-	30.000	40.000	40.000	40.000	150.000
	1.2.4.	**Total Activity 1.2.4**		**62.600**	**93.800**	**125.100**	**156.400**	**187.600**	**625.500**
		Travel	- Travel costs of the implementing partner team to organize	19.400	29.100	38.800	48.500	58.200	194.000

			dialogue, fairs and exchanges						
		Workshops & meetings	- Logistical costs of workshops	40.700	61.000	81.300	101.700	122.000	406.700
		Miscellaneous expenses	- Incidentals	2.500	3.700	5.000	6.200	7.400	24.800
Component 2		**Sub-Total Component 2**		**761.300**	**467.000**	**413.500**	**-**	**-**	**1.641.800**
2.1.	2.1.1.	**Total Activity 2.1.1**		**761.300**	**-**	**-**	**-**	**-**	**761.300**
		Local Consultants	- Experts in indigenous culture responsible for data collection, completing technical studies at watershed level	326.900	-	-	-	-	326.900
		Travel	- Travel costs of consultants	372.400	-	-	-	-	372.400
		Equipment	- Cost of renting specialized equipment to collect information	52.000	-	-	-	-	52.000
		Miscellaneous expenses	- Incidentals, stationery and related costs	10.000	-	-	-	-	10.000
2.2	2.2.1.	**Total Activity 2.2.1**		**-**	**467.000**	**233.500**	**-**	**-**	**700.500**
		Local Consultants	- Experts on Early Warning Systems and climate services	-	198.600	99.300	-	-	297.900
		Travel	- Travel costs of the implementing partner team	-	165.500	82.800	-	-	248.300
		Equipment	- Cost of installing meteorological stations	-	58.100	29.000	-	-	87.100
		Technical Assistance	- For the introduction and maintenance of Binational Early Warning systems and mechanisms of collection of agro-metereological data	-	40.000	20.000	-	-	60.000

		Miscellaneous expenses	- Incidentals and use of specialized software	-	4.800	2.400	-	-	7.200
	2.2.2.	**Total Activity 2.2.2**		**-**	**-**	**220.000**	**-**	**-**	**220.000**
		Travel	- Travel costs of the implementing partner team	-	-	72.100	-	-	72.100
		Training	- Costs of community-based training exercises on Emergency Preparedness and Responses, including experts and logistical costs	-	-	137.900	-	-	137.900
Component 3		**Sub-Total Component 3**		**-**	**967.400**	**3.282.800**	**2.340.500**	**1.529.800**	**8.320.500**
3.1.	3.1.1.	**Total Activity 3.1.1**		**-**	**40.000**	**-**	**-**	**-**	**40.000**
		Local Consultants	- Experts responsible for developing participatory approaches	-	33.100	-	-	-	33.100
		Travel	- Travel costs of the implementing partner team	-	6.900	-	-	-	6.900
	3.1.2.	**Total Activity 3.1.2**		**-**	**904.000**	**929.700**	**964.800**	**1001.500**	**3.800.000**
		Technical Assistance	- For implementation of proposed adaptation measures	-	206.900	213.100	221.600	230.500	872.100
		Travel	- Travel costs of the implementing partner team	-	71.100	73.300	76.200	79.300	299.900
		Equipment tools and inputs	- Tools and materials used to implemented proposed adaptation measures	-	505.000	519.300	538.800	559.200	2.122.300
		Workshops & meetings	- Logistical costs of community-based	-	121.000	124.000	128.200	132.500	505.700

		workshops organized for design and implementation of proposed concrete adaptation measures						
	Total Activity 3.1.3		**-**	**-**	**433.300**	**866.700**	**-**	**1.300.000**
3.1.3.	Technical Assistance	- Provided to introduce community based water harvesting, storage and management measures	-	-	82.800	165.500	-	248.300
	Travel	- Travel costs of the implementing partner team	-	-	57.900	115.900	-	173.800
	Equipment, tools and inputs	- Tools and materials to build community water reservoirs and technologies water harvesting	-	-	233.300	466.700	-	700.000
	Workshops & meetings	- Logistical costs of workshops on water management	-	-	59.300	118.600	-	177.900
	Total Activity 3.1.4		**-**	**73.400**	**146.600**	**-**	**-**	**220.000**
3.1.4.	Local Consultants	- Experts responsible for completing a cost-benefit analysis of proposed adaptation measures at micro-watershed level	-	49.700	99.300	-	-	149.000
	Travel	- Travel costs of the implementing partner team	-	6.200	12.400	-	-	18.600
	Workshops & meetings	- Logistical costs of workshops and dialogues organized to complete the proposed cost-benefit analysis	-	17.500	34.900	-	-	52.400
	Total Activity 3.1.5		**-**	**-**	**1.280.500**	**-**	**-**	**1.280.500**

	3.1.5.	Technical Assistance	- Provided to introduce and maintain soil management measures	-	-	289.700	-	-	289.700
		Travel	- Travel costs of the implementing partner team	-	-	165.500	-	-	165.500
		Equipment, tools and inputs	- Tools and materials to reintroduce native species and agro-ecological crop production practices	-	-	700.000	-	-	700.000
		Workshops & meetings	- Logistical costs of workshops organized for community-based design and implementation	-	-	125.300	-	-	125.300
3.2.	3.2.1.	**Total Activity 3.2.1**		**-**	**-**	**251.600**	**259.000**	**269.400**	**780.000**
		Technical Assistance	- Provided to introduce soil management measures	-	-	62.100	63.900	66.500	192.500
		Travel	- Travel costs of the implementing partner team	-	-	12.400	12.800	13.300	38.500
		Equipment, tools and inputs	- Tools and materials to introduce soil management measures	-	-	133.400	137.300	142.800	413.500
		Workshops & meetings	- Logistical costs of workshops and meetings organized for community-based planning and implementation	-	-	43.700	45.000	46.800	135.500
	3.2.2.	**Total Activity 3.2.2**		**-**	**-**	**291.100**	**300.000**	**308.900**	**900.000**
		Technical Assistance	- Provided for conservation and recovery of forests and mangroves	-	-	93.100	95.900	98.800	287.800

	Travel	- Travel costs of the implementing partner team	-	-	17.200	17.800	18.300	53.300
	Equipment, tools and inputs	- Tools and materials for tree planting and implementation of forest management actions	-	-	180.800	186.300	191.800	558.900
Total: Project Components			**1.240.500**	**2.032.900**	**4.004.700**	**2641.800**	**1.863.900**	**11.783.800**
Total: Project Execution 9.5%			**204.700**	**193.600**	**212.300**	**201.300**	**307.500**	**1.119.400**
1 Binational Coordinator			28.000	28.600	29.100	29.700	30.600	146.000
2 National Coordinator			46.300	47.300	48.200	49.200	50.700	241.700
4 Officers (liaison with MAE, MADS, WFP Colombia and WFP Ecuador)			75.900	77.400	78.900	80.500	82.900	395.600
2 Monitoring assistants			17.400	17.800	18.200	18.500	19.100	91.000
Travel			4.400	4.500	4.500	4.600	4.900	23.000
Project accountability costs			20.500	5.600	20.700	5.900	106.000	158.700
National office costs (technical support including monitoring, finance and programming)			2.400	2.400	2.500	2.500	2.600	12.400
Sub-office costs			9.800	10.000	10.200	10.400	10.700	51.100
Total Project Cost			**1.445.200**	**2.226.500**	**4.217.000**	**2.843.100**	**2.171.400**	**12.903.200**
MIE Management Fees 8,5%			**122.842**	**189.252**	**358.445**	**241.692**	**184.569**	**1.096.800**
Total Financing requested			**1.568.042**	**2.415.752**	**4.575.445**	**3.084.792**	**2.355.969**	**14.000.000**

General Notes:

Local Consultants: includes consultants hired to complete studies and disseminate results.

- Under component 1, this includes a studies coordinator, two experts in agribusiness and market research, two translators and three consultants with extensive experience with Awá and Afro communities responsible for studies on traditional practices and knowledge, and on the feasibility of the potential for marketing native species.
- Under component 2, it includes a coordinator for studies on climate risk, two climate risk experts, two environmental experts (one for water, one for forest ecosystems), one contingency planner, two watershed management experts and two Early Warning

System experts. These consultants will undertake studies on vulnerabilities at the watershed level, as well as on the potential use of EWS. It also includes Fees for experts in anthropology, agriculture, environment and climate change with experience working with afro and indigenous communities. Experts will also be needed to conduct primary data collection from communities, translate from Awapit to Spanish and record the data, and further generate information to analyse vulnerabilities and threats faced by the communities.

- Under component 3, it includes four consultants hired to develop a methodology interfacing scientific and traditional knowledge and to complete a cost-benefit analysis, two for Colombia and two for Ecuador.

The data and information generated will be detailed in order to ensure uptake and use by community and government authorities in Colombia and Ecuador in order to support future interventions (including social protection programs, strategies on disaster preparation, land use planning, environmental conservation and local and national plans for sustainable development). Additionally, these studies will be conducted with a participatory approach and with experts who are part of, or have experience working with, Awá and Afro communities in Colombia and Ecuador. Moreover, all data collected and studies written will be in both Awapit and Spanish.

Travel: includes transportation costs for travel to the target area for consultants and the implementing partner team to Afro and Indigenous communities in mangroves and forests in remote border areas. Access to these communities requires from 2 to 12 hours travel via river, trail and horse from the closest urban center, in an area of more than 8,000 square kilometers. Additionally, only few communities are served by a regular public transportation service. These costs include fares for land, air and river transportation. It is estimated that a trip would cost approximately USD 1,800 per person, including all travel allowances, gas and rental of cars, boats, canoes, and donkeys.

Miscellaneous expenses: includes incidentals, stationery for consultants, rent for use of meeting areas necessary for project programming, and other costs.

Equipment, tools and inputs: Under component 2, this includes: equipment to complete studies, including tablets, GPS, specialized geological, climatological and other instrumentation, as well as for the strengthening of at least 3 meteorological stations for climate services as part of EWS. Cost of maintenance for these meteorological stations will be covered by government entities in Colombia and Ecuador once agreement is reached. It also includes materials and labour required in component 3 to install wind breaks, prepare fish ponds, establish family gardens, introduce organic products, build community water reservoirs and technologies for cloud harvesting of water, and implement proposed adaptation measures under this component. This encompasses storage centres, nurseries, wire, and other materials related to the proposed adaptation measures.

Workshops & meetings: includes rent of spaces, catering, transportation costs for participants and related logistical costs. It also relates to least two workshops per community in component 1 to disseminate results of studies and integrate traditional knowledge and

adaptation practices into community dialogues. In component 3, this covers costs for at least 3 workshops with communities to develop community-level adaptation plans, a full cost benefit analysis of activities, and decisions on implementation of concrete adaptation measure activities.

Contractual Services: this includes fees for experts to consult with communities and compile lessons learnt and best practices. This information will be uploaded on a web-based platform. The web platform costs include fees for webmasters, procurement of software licenses, installation of programs across the binational, regional and national systems of Ecuador and Colombia, one time training of relevant authorities on usage, and maintenance and troubleshooting.

Training: includes experts to lead and organize training activities for climate change threats under component 1, and for EPR under component 2. It also considers logistical costs.

Technical Assistance: includes assistance to strengthen implementation capacities of proposed activities for communities and government organizations under component 2 (for EWS), and assistance to facilitate design and implementation of effective adaptation measures at the community level under component 3.

Project accountability costs: includes costs of an Inception Workshop, a Final Evaluation, five Annual Progress Reports and a Final Audit.

National office costs: includes costs of providing technical support at national level for monitoring, finance and programming.

Sub-office costs: covers local support and general maintenance costs of field offices in order to guarantee effective implementation of the project.

MIE Management Fees

The MIE Management Fees will be utilized by WFP as the Multilateral Implementing Entity to cover the costs associated with the provision of general management support in Colombia and Ecuador. It covers the costs of management services provided by WFP Colombia and Ecuador Country Offices and WFP Headquarters in support of the implementation of the proposed project. The table below provides a breakdown of the estimated costs of providing these services.

TABLE 13

Management Fees Distribution

Breakdown of costs for the project management fees

Finance and budget	• General oversight, management and quality control • Ensure compliance with WFP judiciary standards and internal control processes, relevant international and national regulations and the Adaptation Fund Board • Manage, monitor and track financial transactions • Manage all Adaptation Fund financial resources through a dedicated Trust Fund
Programme and performance management support	• Technical support, troubleshooting, and support missions as necessary • Specialised policy, programming and implementation support services • Provide technical support in the areas of risk management, screening of financial and risk criteria and indicator selection • Provide guidance in establishing performance measurement processes
Information and Telecoms Support	• Includes maintaining information management systems and specific project management databases to track and monitor project implementation
Evaluation and knowledge management advice	• Technical support in methodologies, innovative solutions, validation of Terms of Reference, identification of experts, results validation and quality assurance
Audit and inspection support	• Ensure compliance with audit requirements • Ensure financial reporting complies with WFP and Adaptation Fund standards • Ensure accountability and incorporation of lessons learned
Legal Support	• Legal advice to assure conformity with WFP legal practices and those of Colombia and Ecuador • Contract review

H. Disbursement Schedule

TABLE 14

Project Timelines

Activity	Broad timelines
Studies on: 1) water provision considering climate threats; 2) ecosystem vulnerability in the face of climate change and variability and extreme events; and 3) food security and nutrition in vulnerable communities	3-12 months
Studies on traditional and local practices and feasibility of marketing native species	6- 12 months
Training to leaders, community members and women	6-18, 33-36,45-48, 57-60 months
Community Adaptation Plans prepared with full participation of communities	6-18 months
Workshops, dialogues, fairs, exchanges and cultural events with community members and leaders	9-18, 33-36,45-48, 57-60 months
Web-based adaptation learning platform	15-60 months
Early Warning Systems	12-30 months
Compilations and sharing of best practices on risk reduction and risk management actions	3-60 months
Methodology developed that interfaces scientific and traditional knowledge with community participation	12-18 months
Cost-benefit analysis of proposed adaptation measures	21-30 months
Livelihood activities of adaptation to climate change and variability	13-60 months
Monitoring and evaluation	Project Inception Workshop (0-2 month), Annual Progress Reports (month 12, 24, 36, 48 and 60) , Mid-term Evaluation (30 month) and Final External Evaluation (months 54- 60)

TABLE 15

Disbursement Matrix

	Upon Agreement signature	One Year after Project Start	Year 2	Year 3	Year 4	**Total**
Scheduled Date	1st June 2017	1st June 2018	1st June 2019	1st June 2020	1st June 2021	(in USD)

Project Funds	**1.445.200**	**2.226.500**	**4.217.000**	**2.843.100**	**2.171.400**	**12.903.200**
Implementing Entity Fee	**122.842**	**189.252**	**358.445**	**241.692**	**184.569**	**1.096.800**
Total	**1.568.042**	**2.415.752**	**4.575.445**	**3.084.792**	**2.355.969**	**14.000.000**

Component 1

Expected Outcomes	**Expected Outputs**	**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
		Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1.1. Traditional and local knowledge recovered to support sustainable adaptation measures, food security and nutrition, and resilient livelihoods	1.1.1. One study per watershed produced on traditional and local practices, promoting resilience to climate change and variability in the targeted binational watersheds, with community participation and particular attention to ancestral and native plant and tree species that can improve dietary diversity and are resilient to climate change.																				
	1.1.2. Study produced on the feasibility of marketing native species for medicinal, artisanal, food and fodder related uses at regional, departmental and national levels.																				

	1.1.3. Workshops, dialogues and cultural events (for example fairs) organized to disseminate study results to 120 Afro and Awá communities, leaders and decision makers, in local languages. Equitable participation of men and women will be promoted.																					
1.2 Traditional knowledge and adaptation practices integrated in community dialogues and decision-making processes	1.2.1**.** In 120 communities, leaders, community members and women trained on climate change threats with culturally and gender sensitive methods. Equitable participation of men and women will be promoted.																					
	1.2.2. Dialogues, fairs and exchanges involving 120 communities, leaders and community members on food security, nutrition and healthy living habits, considering climate threats, with special focus on diversifying diets and increasing incomes from the production and sale of native species and products. Equitable participation of men and women will be promoted.																					
	1.2.3. One binational web-based adaptation learning platform in use.																					
	1.2.4. Compilations and sharing of best practices on risk reduction and risk management actions at binational watershed level, considering ecosystem type and emphasizing traditional and local knowledge.																					

Component 2

Expected Outcomes	Expected Outputs	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.1. Increase scientific knowledge to manage climate change and risk, affecting food security and nutrition	2.1.2. Studies at the binational watershed level produced on: 1) water provision considering climate threats; 2) ecosystem vulnerability in the face of climate change and variability and extreme events; and 3) food security and nutrition in vulnerable communities.																				
2.2 Risk reduction capacity of binational institutions and communities strengthened, including leveraging climate services	2.2.1. Binational Early Warning Systems introduced, specifically tailored to inform the Afro and Awá communities about extreme events and sea level rise. Additionally, climate services will be introduced to include agro-meteorological data, vulnerability mapping, with a focus on crop yields and cycles; and climate risks in mangrove and high-mountain ecosystems.																				
	2.2.2. Approximately 120 leaders and community members trained in Emergency Preparedness and Response and understanding and planning for climate threats																				

Component 3

Expected Outcomes	Expected Outputs	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1. Improved access to livelihood assets, enhanced resilience and reduced risks from climate shocks in food-insecure communities and households	3.1.1. Participatory approaches developed, interfacing scientific and traditional knowledge.																				
	3.1.2. Effective adaptation measures designed and implemented using methodology developed in 3.1.1. and incorporating traditional and local knowledge and the recovery of degraded ecosystems in 120 communities.																				
	3.1.3. Community water harvesting, storage and management measures introduced.																				
	3.1.4. Cost-benefit analysis of proposed adaptation measures at micro-watershed level.																				
	3.1.5. Native species reintroduced to diversify production and consumption and for commercialization, including introduction of organic and agro-ecological crop production practices and ocean species.																				
3.2. Increased adaptive capacity and ecosystem resilience to respond to climate threats and food insecurity	3.2.1. Soil management activities implemented, including agro-forestry and native nitrogen-fixing species.																				
	3.2.2. Conservation and recovery of 3,000 ha of forest ecosystems and 2,000 ha of mangroves threatened by climate change through tree planting and forest management actions, at the micro-watershed level, with species that are native and resistant to climate variability, in line with national plans.																				

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

A. Endorsement on Behalf of the Government[79]

CLAUDIA VASQUEZ MARAZZANI *Head of the Office of International Affairs* *Ministry of Environment and Sustainable Development – Colombia*	***Date:*** *December 16th 2016*
MARIA VICTORIA CHIRIBOGA *National Designated Authority* *Climate Change Undersecretary* *Ministry of Environment – Ecuador*	***Date:*** *January 6th 2017*

[6.] 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.

B. Implementing Entity Certification

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 in Colombia and Ecuador, and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Deborah Hines
Implementing Entity Coordinator - Colombia

O.I.C

Kyungnan Park
Implementing Entity Coordinator - Ecuador

Date: *9th January 2017*	Tel. and email: Deborah Hines. +57 1 346 9870: deborah.hines@wfp.org Kyungnan Park: +593 224 60330 kyungnan.park@wfp.org

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Annex 1: List of Acronyms Used in this Document

Acronym	*Expanded*
ACIPAP	Association of Indigenous People of the Awá Villages of Putumayo
AEI	Agriculture expansion index
AF	Adaptation Fund
ALP	Stuggle and Progress Association
APC	Presidential Coordination Agency
APR	Annual Progress Report
CAMAWARI	Major Awá Chapter of Ricaurte
CANE	The Afro-Ecuadorian Confederation of Northern Esmeraldas
CbA	Community based Adaptation
CBD	Convention on Biological Diversity
CBT	Cash-Based Transfer
CIAT	The Center for Tropical Agriculture
CIIFEN	International Centre for ENSO Research
COMBIFRON	Colombia-Ecuador Binational Border Commission
CORPONARIÑO	The Autonomous Regional Environmental Authority of Nariño
DALY	Disability Adjusted Life Year
EbA	Ecosystem based Adaptation
ENCC	National Strategy for Climate Change
ENSO	El Niño – Southern Oscillation
EPR	Emergency Preparedness and Response
EWS	Early Warning Systems
FARC	Revolutionary Armed Forces of Colombia
FCAE-GONAE	Federation of Awá Centers of Ecuador
FECONIC	Federation of Black Communities of Imbabura and Carchi
FEE	Final External Evaluation
GAD	Decentralized Autonomous Government
GIS	Geographic Information System
IDEAM	Institute of Hydrology, Meteorology and Environmental Studies
INAMHI	National Institute for Meteorology and Hydrology
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
ITZC	Inter-Tropical Convergence Zone
IW	Inception Workshop
LAC	Latin America and the Caribbean
MADS	Ministry of the Environment and Sustainable Development
MAE	Ministry of the Environment (Ecuador)
MASL	Meters Above Sea Level
M&E	Monitoring and Evaluation
MIE	Multilateral Implementing Entity
MOMUNE	Movement of Negro Women of North-Esmeraldas
MTE	Mid-Term Evaluation

NGO	Non-Governmental Organization
PNACC	National Climate Change Adaptation Plan
RECOMPAS	The Network of Southern Pacific Community Councils
REDD+	Reduce Emissions from Deforestation and Forest Degradation, and Foster Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks
SDG	Sustainable Development Goals
SGR	National Risk Management Secretariat
UNDP	United Nations Development Programme
UNIPA	The United Indigenous Organizations of the Awá People
UNFCCC	United Nations Framework Convention on Climate Change
UNGRD	National Disaster Risk Management Unit
VAM	Vulnerability Analysis and Mapping
WFP	World Food Programme
ZIFEC	Border Integration Zone Ecuador - Colombia

Annex 2: List of Stakeholders Consulted and Meeting Results

Country	Dates	Location	Participants	Meeting objectives	Main results
BINATIONAL	8 April 2016	Teleconference Bogotá-Quito	MADS, MAE, WFP COs	Discuss steps forward in concept note development	MADS and MAE agreed to share lessons learned from previous adaptation projects and draft a project development timeline.
	16 May 2016	Teleconference Bogotá-Quito	MADS, WFP COs	Discuss advances from WFP in Colombia and Ecuador on concept note development	MADS agreed to follow up with MAE bilaterally.
	28 June 2016	Teleconference Pasto - Bogotá - Tulcán - Quito	MADS, MAE, WFP COs	Follow up on technical advances for concept note development and consultation plans	WFP, MADS and MAE agreed that the concept note must reflect a binational focus and that to improve communication periodic teleconferences will take place. WFP agreed to give MADS and MAE the concept note draft by July 8 and MADS and MAE agreed to give comments within one week.
	13-14 December 2016	Pasto	GFAB, MADS, MAE, FCAE, RECOMPAS, Consejo Comunitario de Bajo Mira y frontera Consejo Comunitario de Alto Mira, Resguardo el Gran Sábalo	Socialize and discuss Project management structure, proposed adaptation measures and climatic threats identified in the area of the Project	Communities agreed on proposed adaptation measures and a management structure was defined. The full proposal will be shared.
COLOMBIA	8 April 2016	Cali	RECOMPAS, WFP	Socialize the pre-concept and evaluate interest in the AF process	RECOMPAS focal point agreed to present the AF pre-concept to RECOMPAS leaders for their review.

	8 April 2016	Cali	CIAT, WFP	Learn about CIAT's innovative EbA and CbA tools and best practices	CIAT agreed to serve as technical support in project implementation, with their portfolio of innovative adaptation tools. CIAT shared information about former border-area projects.
	14 April 2016	Pasto	UNIPA (one constituent governance structure of the GFAB), WFP	Socialize the pre-concept with one GFAB leader and evaluate interest in the AF process	UNIPA invited WFP to present the AF pre-concept in front of all GFAB leaders.
	14 April 2016	Pasto	CORPONARIÑO, WFP	Learn about Corponariño's territorial adaptation projects and best practices	Corponariño agreed to be part of the concept note development process in technical support and provided information on current territorial projects and priorities.
	20 April 2016	Pasto	GFAB, WFP	Socialize the pre-concept with all GFAB leaders and evaluate interest in the AF process	GFAB agreed to continue with the AF process and invited WFP to present the pre-concept at the binational Awá congress.
	05 May 2016	Bogotá	MADS, WFP	Follow up on commitments between WFP and MADS, finalize the concept note development timeline and identify the role of each stakeholder	MADS agreed to organize a binational committee to improve the AF management process. WFP agreed to share an updated concept note development timeline.
	11 May 2016	Tumaco	RECOMPAS, WFP	Follow up with RECOMPAS leaders on their comments on the pre-concept	WFP presented the AF pre-concept to RECOMPAS leaders and presidents of community councils. RECOMPAS agreed to be part of the concept note development.
	23 June 2016	Bogotá	MADS, WFP	Review technical advances in CN development and consultative process	MADS agreed to discuss technical advances with MAE bilaterally.
	27 June 2016	Pasto	GFAB, WFP	Learn about climate threats in the border region, identify community priorities for adaptation	Analyse climate risks and measures at the local level for the Awá territory.

	28 June 2016*	Pasto	GFAB, Corponariño, Gobernacion de Nariño, WFP	Identify climate threats, priorities, traditional adaptation measures and potential stakeholder roles and responsibilities	GFAB agreed to continue with the AF process. Corponariño and the Gobernación of Nariño agreed to form part of technical assistance for project design and implementation.
	6 July 2016	Bogotá	MADS, WFP	Share advances and information about the meeting with the Awá on the 28th; review alignment of the CN with priorities of the new MADS minister	MADS agreed to submit their endorsement letter by 25 July and to give us their consolidated comments on the CN by 15 July.
	12 July 2016	Tumaco	Recompas, WFP	Learn about climate threats in the border region	Identified community priorities for adaptation.
	31 October 2016	Pasto	Public entities, environmental organizations linked to Climate Change programs	Enhance awareness of and promote the project, identify institutional stakeholders and their main interests and projects in the Ecuador-Colombia border area	WFP reported on progress on the proposal, strategies for community participation, policy alignment with the Ministry of Environment and Sustainable Development (MADS), and a workshop to identify key stakeholders present in the territory, as well as the current and potential future themes of the proposal along with priority zones and communities which may be interested in participating.
	31 October 2016	Pasto	Corponariño-MADS	Reach agreement with Corponariño regarding the structure of the project	WFP and MADS presented advances on the proposal in alignment with climate change policies. Corponariño as the local environment authority agreed on participating in the proposal formulation and designated a focal point. Corponariño provided official documents and maps to complement the proposal and explained in detail its administrative mechanisms, office locations and implementation capacity.

	31 October 2016	Pasto	UNDP	Coordinate actions at territorial level	UNDP and WFP discussed project initiatives in the territory. UNDP is in the designing phase of a hydrological management project in the department of Nariño. Agreement was reached to share documentation, complement activities with one another and to coordinate actions in the territory.
	3-4 November 2016	Pasto	UN Agencies International NGO	Map programs and projects related to climate change and food security and nutrition from UN agencies and international NGOs	WFP presented advances on the proposal, priorities and alignment to binational policies both on climate change and food security and nutrition. UN agencies including UNHCR and FAO, and international NGOs presented their programs and projects in order to identify convergence areas and community contexts.
	09 November 2016	El Diviso	Leaders from Grand Family Awá Binational UNIPA, CAMAWARI-ACIPAP from Colombia and GONAE from Ecuador, elders & AWÁ women	Approve the project concept with communities Identify applicable priority climate change adaptation methods based on the area and needs of the communities Collectively determine communities to be included in the project	WFP presented on the progress of the project and the evaluation schedule for project approval. Agreement was reached on key concepts (climate change, Risks, Vulnerabilities, Adaptation and Food Security and Nutrition) as well as criteria for targeting and selecting communities. A wall of history exercise was carried out to identify experiences related to severe climatic events, effects on the community, and roles and means for dealing with them. Reached agreement on selection of 15 AWÁ communities from Alto Mira and 15 Awá communities from Bajo Mira based on shared criteria for selection.
	10 November 2016	Tumaco	Members of community councils of Upper and Lower Mira River watershed, 13 leaders from the council of RECOMPAS,	Approve the project concept with communities Identify applicable priority climate change adaptation methods based on the area and needs of the communities Collectively determine communities to be included in the project	WFP presented on the progress of the project and the evaluation schedule for project approval. Agreement was reached on key concepts (climate change, Risks, Vulnerabilities, Adaptation and Food Security and Nutrition) as well as criteria for targeting and selecting communities. A wall of history exercise was carried out to identify experiences related to severe climatic events, effects on the community and roles and means of dealing with them. Reached agreement on selection of 15 AWÁ communities from Alto Mira

			as well as key RENCOMPAS figures and women leaders		and 15 Awá communities from Bajo Mira based on shared criteria for selection. Identified roles and ways to participate in the project for children and youth, women, elders and leaders. Community councils which were not directly included in the workshop have acknowledged that it is important to focus on the most vulnerable communities which are in the border area.
	17 November 2016		Rural communities prioritized for consultation in the Awá zone of the project	Identify appropriate and required adaptation measures in each zone as well as ways to strengthen the gender approach of the project with an emphasis on Food Security and Nutrition	An exercise was carried out to identify and prioritize climate change adaptation methods and family FSN in a gender-neutral manner, with women contributing significantly to the process. Workshop participants in breakout session groups described direct and indirect social benefits for each adaptation measure prioritized.
	18 November 2016	Pasto	WWF	Identify planning documents and experiences with local communities	WFP presented advances on the proposal and explained the consultative process with Awá and Afro Colombian Communities. WWF presented planning and research documents produced in the area and agreed to share lessons learned.
	18 November 2016		Rural communities prioritized for consultation in the Afro zone of the project	Identify appropriate and required adaptation measures in each zone as well as ways to strengthen the gender approach of the project with an emphasis on Food Security and Nutrition	Council of Economy and Production from GFAB organized the meeting and provided information about traditional agricultural systems (Awá-su y Sao). Participants identified 10 communities from UNIPA deeply affected by drought, impacting food security and stability of terrestrial and aquatic ecosystems.

	21 November 2016	Pasto	Staff involved in project “Messengers of Life“of UNICEF, Gran Sábalo Reserve.	Collect information to focus on and identify adaptation measures, with a well-defined gender approach	Using a feedback mechanism, the selection of targeted communities was confirmed, and the potential role of women “messengers of life” and the inclusion of men “messengers” based on existing experience in the area. Also identified the importance of working with youth and elders on an inter-generational dialogue, the inclusion of schools and teachers with an inter-cultural focus, and the importance of retaining ancestral languages in order to transfer traditional knowledge. Also identified was the importance of retrieving knowledge of traditional orchards and farming methods (SAU, SAW and Awá-su), as well as strengthening of human rights and the idea of protected or “safe havens” related to needs of the family, community, schools and community organizations.
	22-23 November 2016	Vereda San Isidro Alto, Consejo Comunitario Bajo Mira y Frontera Vereda Chimbuzal, Consejo Comunitario Alto Mira y Frontera Vereda Imbilí y Miras Palmas,	Leaders of Afro Communities in the area of intervention	Prioritize Afro-descendant communities through consultation sessions in the field area	Prioritization of adaptation measures, with a FSN component. WFP committed to strengthen their relationship with local Afro communities.

ECUADOR	06 May 2016	Quito	MAE - WFP	Discuss including Sucumbíos as a targeted province	WFP and MAE concluded that Carchi and Esmeraldas are more feasible to cover through the project than Sucumbíos.
	13 May 2016	Quito	MAE - WFP	Discuss how to accelerate the consultative process with community leaders	WFP and MAE agreed to hire Ecobiotec because of its knowledge in the field and good working relationship with the Awá and Afro-descendent populations.
	21 May 2016	Quito	MAE - WFP	Share information about lessons learned and the legal frameworks for climate change in Ecuador	MAE agreed to send information to incorporate in the project.
	16 June 2016	Quito	WFP-HIVOS	Learn more about HIVOS and its work with climate change in Esmeraldas	HIVOS will provide information about Afro-descendant groups in that area and its previous projects in the province – they are a potential technical or executing partner.
	27 June 2016	Tulcan	WFP-GADPC	Discuss GADPC's work with climate change and interest in the development of the concept note (GADPC – Autonomous Governing Authority of Carchi)	GADPC agreed to participate in a consultation meeting June 28th and expressed interest in the project.
	28 June 2016	Tulcan	MAE-WFP-GADPC-CANE-FECONA-MOMUNE (Afro de Esmeraldas)-FECONIC (Afro del Carchi) ECOBIOTEC	Learn about climate threats in their territories and for the communities, especially for Afro- populations	Local Afro-representatives from coastal and Andean zones expressed that they have experienced increased structural and environmental vulnerabilities due to climate change that have affected local communities. They agreed to have consultations at a community level.
	28 June 2016	Ibarra	MAE-WFP-FCAE (AWÁ)-ECOBIOTEC	Learn about climate threats in the Awá territories and communities	The Awá expressed that they have few means to adjust to changes threatening food security due to climate change.

	05 July 2016	San Lorenzo	FETANE (Afro) - ECOBIOTEC	Learn how FETANE is organized	FETANE expressed that their community members lost their communal territories due to palm oil plantation expansion.
	06 July 2016	San Lorenzo	FEDARPON-CANE (Afro)-ECOBIOTEC	Learn how FEDARPON is organized, its socioeconomic ties with the municipal government and how community members perceive climate threats	Communities lost land to palm-growers and are now co-proprietors/ labourers. Those not linked to palm-growers work in mangroves, competing with Colombians. The pressure on the ecosystem and in communities reduces prices and the quantity of products available to each family.
	07 July 2016	San Lorenzo	Lucha y Progreso-CANE - ECOBIOTEC	Learn how CANE is organized, its socioeconomic ties with the municipal government and how community members perceive climate threats	Communities are interested in sustainability projects. In terms of climate changes, there has been an insurgence of long droughts and short, harsh winters that affect the communities, such as the drought in 2014.
	30 November 2016	Ibarra	Board and staff of the Federación de Centros Awá del Ecuador (Federation of Awá Centers of Ecuador (FCAE)	Present the last developments in the building of the project “Building adaptive capacity through food and nutrition security and peace-building actions in vulnerable Afro and indigenous communities in the Colombia-Ecuador border area” Inform about the next steps in the process Institutional stakeholders identification and discuss interest	The WFP team explained the latest developments in the process and discussed the possible ways of FCAE participation, climate change related problems in the Awá communities and Stakeholders in the Awá territory. It was agreed that the WFP team participate in the FCAE General Congress to be held in the following week in the Guadualito community. .

	1 December 2016	Tulcán Chical	Mayor of Tulcán and officers of the Planning Department.	Provide information on the developments of the project Learn what information the municipality of Tulcan has regarding the Awá people Learn whether the Municipality of Tulcán would be willing to work with Awà Communities of interest	The WFP team explained the progress and the current status of project. From the Mayor of Tulcán and officers of the Planning Department; the mayor expressed his interest to participate in the project and in complementing the initiatives with the Awá people, that are in harmony with his office´s efforts and functions. He expressed the willingness to carry out combined activities to identify local issues related to climate change and food security and raise awareness of same. Key concepts (climate change, risk, vulnerability, adaptation and food and nutritional security) were agreed upon as were general criteria for targeting communities for possible support from the municipality.
	2 December 2016	El Chical Rural Parish	President and members of the Parish autonomous government.	Provide information on the developments of the project Understand the parish perspective regarding the Awá indigenous communities and the possibilities of interaction in the execution of the project	The president and members of the Parish Council described the socio-economic situation of the Awá people in the area sharing his perception about the cause of their problems (insufficient linkage of indigenous peoples with external society for reasons of culture and geographical connectivity). The members of the Council stated that in Awá communities malnutrition reaches up to 98%. Officers of the health department of Chical confirmed this fact later on. The council members agree to provide information on planning and projects in the Awá communities. The WFP team invited the Parish Council President to a workshop to understand and discuss the goals and components of the project "Building adaptive capacity through food and nutrition security and peace-building actions in vulnerable Afro and indigenous communities in the Colombia-Ecuador border area"

	2 December 2016	Chical Rural Parish	Chical Health Center, Awá community Health Center	To provide information on the developments of the project, particularly regarding the link between climate change and food security and nutrition To ask about the health and nutrition situation in the Awá communities	Discussed the goal and components of the project and how it is related to nutrition issues. The health officers provided information regarding the current situation on food security and nutrition in the Awá communities, especially those in Carchi province. All of them agreed that the level of malnutrition in these communities can be very high, up to 98%. The health officers offered to send more detailed data about health and malnutrition issues in the Awá communities. However, they asked the WFP Team to send a formal request letter to the Health departments in Carchi and Imbabura provinces. The WFP invited the Health officers to send a delegate to participate in a workshop for institutions to be held in Ibarra in the following week.
	2 December 2016	Goaltal Rural Parish	Ernesto Chingal, Secretary of the Parish Council;	To provide information on the developments of the project Understand the Afroecuadorian and Awá communities present in the Parish territory Understand the parish council perspective regarding the local problems related with Climatic Change	Discussed the goal and components of the project and how the local communities can participate. The WFP invited the Parish Council to send a delegate to participate in a workshop for institutions to be held in Ibarra in the following week.
	2 December 2016	Alto Tambo Rural Parish	Segundo Saltos, President of the Junta Parroquial.	Provide information on the developments of the project Understand the Afroecuadorian and Awá communities present in the Parish territory	Discussed the goal and components of the project and how the local communities can participate. The Parish President provided information on the problem of landlessness that affects practically all the families of the central town. This problem causes food insecurity and migration.

				Understand the parish council perspective regarding the local problems related to Climatic Change	
	3 December 2016	San Lorenzo and Guadualito Awá community	Awá authorities, and Council of the FCAE, GFAB Delegations of the 26 Awá communities, including these located in the Sucumbios province; Representatives of UNIPA, CAMAWUARI Health District officers of the San Lorenzo area; International Health Brigade. Rural Parish Mataje Government	To provide information on the developments of the project To identify institutional stakeholders and their activities in the Awá Communities of the Colombian-Ecuadorian border area To identify relevant adaptation measures for climate change in the targeted area and its communities To select communities to be included in the project proposal through a participative process	Byron Real on behalf of the WFP Team gave a presentation on Ecuadorian Climate Change policy, the social and environmental effects of climate change. WFP presented on progress of the project to be implemented in the Carchi-Guaytara and Mira Mataje Hydrographic watersheds. Workshops were planned to identify local issues related to climate change and food security and nutrition. Stated the need to identify institutional actors and their activities in the targeted areas. It was agreed to facilitate future meetings to strengthen the project design and its respective local counterparts. It was agreed to arrange a new meeting in Ibarra city with the recently-elected board. The key concepts and principles to guide the project decisions and activities such as climate change, risk, vulnerability, adaptation and food and nutritional security, and the criteria for community selection, were agreed upon. The community councils recognized the importance of the project focusing on the most vulnerable areas in the Awá territory.

	4 December 2016	Afro-Ecuadorian communities located in the area of influence (Mataje River and Mangrove Reserve Cayapas-Mataje)	Indigenous Communities: El Viento, Cauchal, Changuaral, Palma Real, Pampanal de Bolìvar, La Punta de Miguel. NYTUA foundation	Socialization of the project Identify institutional actors and their activities in the mangrove communities Identify measures of adaptation to climate change according to the targeted area and community characteristics Identify socio-economic and environmental problems Invite to Consultation Workshops	It was agreed to facilitate future meetings to strengthen the project design and respective local counterparts.
	5 December 2016	San Lorenzo	World vision, MAE Decentralized autonomous government (GAD) of the Municipality of San Lorenzo, NYTUA foundation. San Andrés initiative	Awareness-raising of the project Identify institutional actors and their main areas of work in Awá and Afro communities Identify activities involved in adaptation to climate change planned or implemented in the targeted area Establish a preliminary prioritization of communities Invite to Consultation Workshops	Specific work experiences were shared within different communities in the area, particularly those related to food and nutrition security, social vulnerability and gender. The attendees proposed to continue working on forest conservation and harmonization of sacred places. Additionally, proposed to follow and respect the organizational process put forward at the time of project implementation.

Annex 3 – Governance Structure of the Afro and Awá

The Grand Family Awá

The Grand Family Awá is the binational, overarching governance structure of the Awá in Colombia and Ecuador. It is comprised of four organizations: CAMAWARI, UNIPA and ACIPAP (Colombia) and FCAE-GONAE (Ecuador). In Colombia these organizations are legally protected by Decree 1088 of 1993, and, in Ecuador, the organizations are articulated with the government through Executive Decree No. 386 of 1998. Each organization has its own internal governance structure, as described below.

The highest authority for the Awá is the Congress of the Grand Family, which convenes every three years with the participation of approximately 50 delegates from each constituent organization as well as community members and invited external partners. A lower-level assembly meets every year and involves 20 delegates from the constituent Awá organizations in order to make decisions regarding existing problems, to monitor objectives and to plan new working guidelines. The Awá are also governed by a coordination committee, which is comprised of the presidents of FCAE-GONAE, UNIPA, CAMAWARI, ACIPAP as well as coordinators and delegates including women and youth. The Grand Family Awá has a general coordinator, who represents the organization at a national level.

Organizations in Colombia: CAMAWARI, ACIPAP and UNIPA

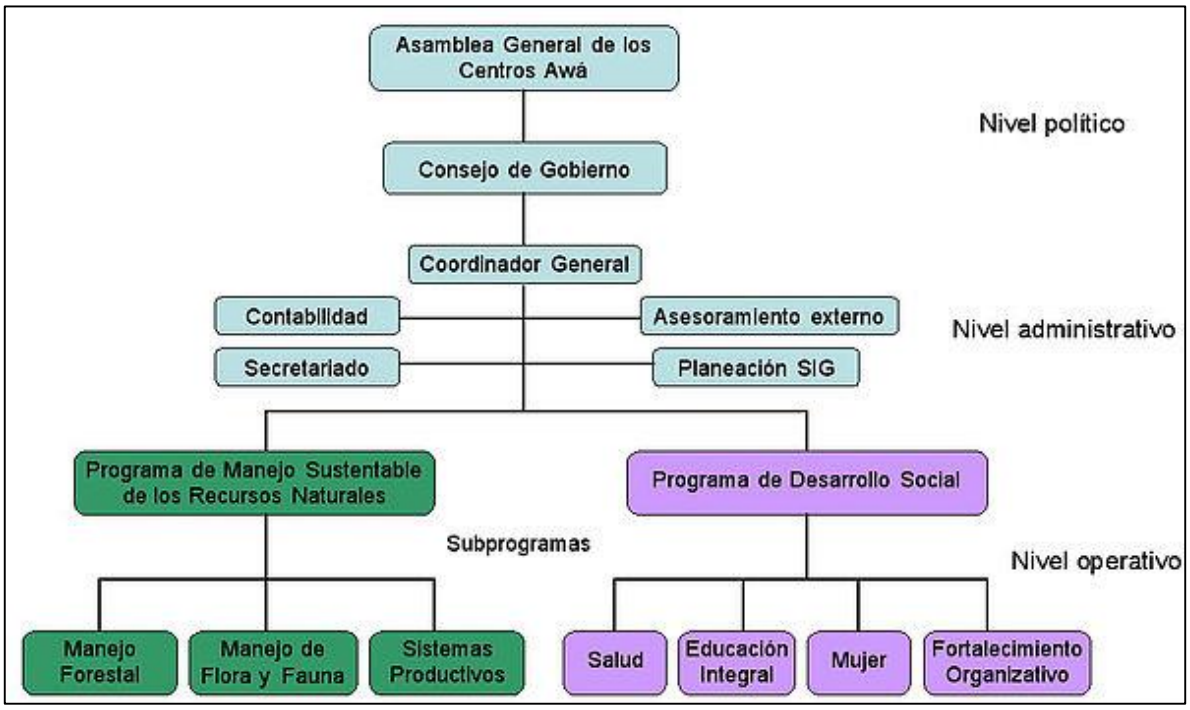
CAMAWARI is governed through an assembly, in which authorities and members of the community convene to make decisions that impact the territory. CAMAWARI governance also involves decision-making meetings with traditional authorities to select and manage projects on health, sustainable production, justice, women and family and education. The UNIPA governance structure is made up of a president, a vice-president, a secretary, a treasurer, an auditor and the project coordinators for programs in health, gender, education, production, communication and territorial governance. The smallest of the organizations, ACIPAP, is made up of a president, a secretary, an auditor, a treasurer and a coordinator for Grand Family Awá initiatives.

Organization in Ecuador: FCAE-GONAE

FCAE-GONAE is governed through an Assembly and a Governing Council. The Assembly meets every six months in order to make decisions regarding existing problems, monitor objectives and plan new working guidelines. The Governing Council is made up of 10 leaders who are elected every three years. FCAE-GONAE has a Main Coordinator, a Project Coordinator and administrative personnel. The political and administrative authorities are in charge of managing finances, national and international cooperation and coordination between FCAE-GONAE and the Grand Family Awá Governance Council. The highest authority within FCAE-GONAE is the president. Each community within FCAE-GONAE are organized into ‘centers,’ where decisions are made with respect to local land-use and agricultural projects.

This organization engages in two classes of community-based programmes, including sustainable natural resource management projects and social development projects. Specifically, FCAE-GONAE implements forestry management, flora and fauna conservation, education, organizational strengthening, health, family and activities.

FIGURE 1
Political Structure of the FCAE-GONAE



Afro-descendant communities

Organizational structure of the Afro-descendants in Colombia

In Colombia, Afro-descendant communities are organized at the highest level through community councils, which, according to Decree 1745 of 1995 (Article 3), constitute the highest authority of internal administration for black communities. They are composed of a general assembly (Article 4) and a board that directs, executes and manages the community internally. The Community Council Board expires on 31 December every three years. The functions of the Community Councils established by Law 70 of 1993 are to ensure the conservation and protection of the rights of collective property, preserve cultural identity, use and conserve natural resources and assist in conciliation of internal conflicts.

The Corporation Network Community Councils South Pacific (RECOMPAS) is located in southwestern Colombia. This organization consists of a general assembly, a board, a tax inspector, a legal representative, a council of elders and a technical unit comprised of a general coordinator, legal, administrative, social and organizational areas, and environmental, productive, financial and communication officers. Individual community councils are integrated into these larger governance structures.

Organizational structure of the Afro-descendants in Ecuador

Afro-descendant populations in Ecuador are similarly governed by community councils. The governance structure of these councils include a president, a vice president, a treasurer, a trustee and a secretary. The council oversees judicial and extrajudicial affairs for the community and is responsible for summoning the assembly (members of the community) to meet on important community issues.

Communities are organized into federations, which are structured through second-tier organizations. The highest authority is the assembly, whose statutes are approved by the Minister of Agriculture and Livestock. In Carchi and Imbabura, FECONIC is regarded as a second-level organization.

Federations are structured as third level organizations. In northern Ecuador it is the Afro-Ecuadorian Confederation of Northern Esmeraldas (CANE), which seeks to achieve territorial autonomy and decision-making power over the state and participate directly in the development of territorial projects. According to leaders of this group it is an ensemble of organizations representing local communities, women organizations, and producers associations.

Among the organizations that are part of CANE are the *Movimiento de Mujeres Negras del Norte de Esmeraldas* (Movement of Negro Women of North-Esmeraldas (MOMUNE)) and the *Asociación Lucha y Progreso* (Struggle and Progress Association (ALP)). MOMUNE is comprised of approximately 38 women grassroots organizations from San Lorenzo and Eloy Alfaro and ALP is an agribusiness organization.

The Afro communities articulate with the government through the Afro-Ecuadorian Development Corporation "CODAE", which was created by Executive Decree No. 244 of June 16, 2005

Annex 4 – Cosmo-vision of the Awá

The Awá consider that their territory (“Katsa su”) is structured into four independent worlds: the lower world (Maza Su= Ishkum Awá); the world where they live (Pas Su= Awaruzpa); the world of the dead (Kutña Su=irittuspa) and the world of the gods (Ampara Su= Katsamika). These worlds are spiritually interconnected.

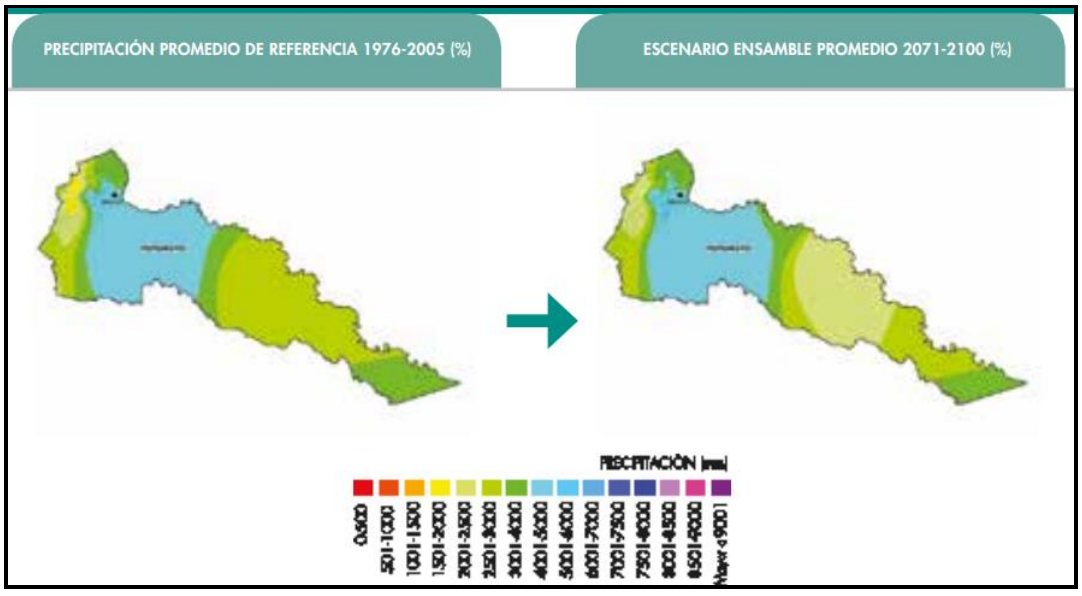
Annex 5- Climate trends in Putumayo, Colombia and Sucumbíos, Ecuador

Precipitation in Putumayo: The average annual rainfall in the department ranges from 1155 mm to 5300 mm per year. Rainfall is bimodal, meaning that there are two rainy seasons and two dry seasons. The heaviest rains, 300 mm per month, occur during the months of May, June and July. June is the wettest month with an average of 370 mm.

Temperature in Putumayo: The average maximum temperature ranges between 21.6°C in Colon to 31.9°C in Mocoa. The average minimum temperature varies between 10.6°C in the municipality of Colon to 20.9°C in Puerto Leguizamo in the Amazon region.

Precipitation Scenario for Putumayo: On average, the department's rainfall may increase by 6.7 percent over baseline. In the municipalities of Sibundoy, Colon, Santiago, Orito, Valle del Guamuéz and San Miguel rainfall may increase by up to 20 percent. Specifically, scenarios predict a 4.45 percent increase between 2011 and 2040; a 6.73 percent increase between 2041 and 2070; and a 6.74 percent increase between 2071 and 2100, with the most drastic changes occurring in eastern mountainous areas (IDEAM, 2015; Figure 2).

Figure 2
Precipitation Scenarios for Putumayo[80]



Temperature scenario for Putumayo: climate scenarios predict an increase of air temperature by 0.8°C between 2011 and 2040; an increase of 1.5°C between 2041 and 2070; and an increase of 2.2°C between 2071 and 2100 (IDEAM, 2015).

Precipitation in Sucumbíos: The months of December and January have the lowest levels of precipitation, but the area experiences rain year round. The predominant climate in the province is rainy tropical, characterized by high temperatures and abundant rainfall. Rainfall exceeds 6,000 mm per year in the area of El Reventador (MAGAP / SIGAGRO / GPS 2008).

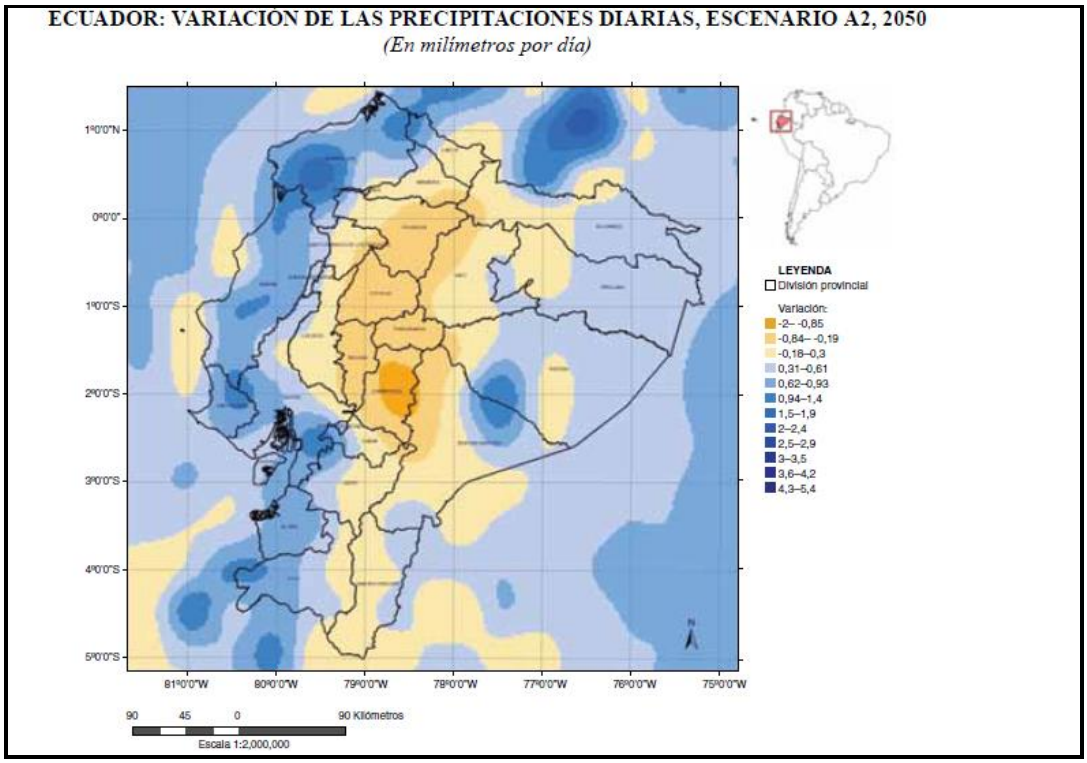
[80] IDEAM (2015)

Temperatures in Sucumbíos: Temperatures vary widely, ranging from 4 °C in the upper parts of the region to 26.2°C elsewhere. The lowest monthly average temperatures are in June and July and the highest temperatures are in December and January. The absolute maximum temperature, recorded in 2003, was 35.6°C and the average maximum was 34.1°C. (MAGAP / SIGAGRO / GPS 2008).

Temperature scenario for Sucumbíos: The average temperature in the province of Sucumbíos is 21.9°C which is expected to rise by 5.26°C by 2090, with consistently higher temperatures each decade (CEPAL, 2012).

Precipitation scenario for Sucumbíos: The average rainfall in millimeters per day (5.85 mm) is expected to rise by 4.27 percent by 2090. In Sucumbíos, the Andean slope and central regions are projected to have decreased precipitation, while increases of precipitation are expected in the Eastern region. (Figure 3).

Figure 3
Daily Rainfall Variation under the A2 – 2050 Scenario[81]



[81] CEPAL (2012)

Annex 6 – Summary of results on climate change threats from community consultations (Ecuador)

Evidence of extreme events in the project area

Afro communities in the Sierra region report that they have a problem with recurrent drought, which is exacerbated when the levels of water of the El Angel River (a tributary of the Mira River) fall considerably. When this occurs, the river does not provide sufficient water to supply the surrounding communities, and their irrigation and consumption needs are not met.

In Afro communities within the Andean region, heavy rains last for short periods of time and are interspersed amongst month-long dry periods. This leads to soil oversaturation and landslides that block roads, disrupting the transport sector.

An unusual phenomenon in recent years is the occurrence of unprecedented low temperatures in the morning. This temperature drop causes thick fog that sometimes does not dissipate until almost noon. In addition, the Chota valley in the Andean region reported a violent hailstorm which damaged crops and the roofs of houses in the area. These two phenomena have been totally absent in this area in past decades.

The most direct effect of climatic changes in this area is in the agriculture sector, where productivity is reduced and is insufficient to ensure surpluses for trade and extra income. For this reason, a large proportion of the population has migrated to larger cities in order to find more stable employment.

In the Andean region, there have been long dry periods followed by weeks of constant rain. Torrential rains have also caused floods in vulnerable places such as the Parambas and San Jeronimo sectors. The floods occurred due to overflow of the Tululbí River in San Lorenzo. These problems have mainly occurred between December and June.

Another risk linked to climate change is the occurrence of forest fires in the dry months (July to November), especially in Awá territory. The risk is especially high in the areas of the Hope commune and the Golondrinas hill. There have also been forest fires in various parts of the Mira River basin.

Additionally, these climate trends (increased temperature and rainfall) are providing optimal conditions for mosquito population growth, which will influence the prevalence of mosquito-borne illnesses like malaria, dengue and chikungunya. There are already unusually high rates of infection of malaria and dengue in San Lorenzo.

Annex 7- Additional Relevant Policies

INTERNATIONAL LEVEL ***UNFCCC AND OTHER INTERNATIONAL AGREEMENTS RELATED TO CLIMATE CHANGE***		
COLOMBIA *ECUADOR*	***Convention on Biological Diversity (CBD),*** *the* ***Development Agenda 2030****, the* ***Convention to Combat Desertification*** *(UNCCD) and the* ***Sendai Framework for Action 2015-2030****: In order to strengthen synergies between adaptation and mitigation (based on socio-ecosystem adaptation) articulate adaptation to climate change and risk management, adapting the basic infrastructure and sectors of the economy; incorporate adaptation and resilience in sectorial planning, territories and development, promote education and consolidate peace territories with climate change considerations.*	***Components 1, 2 and 3***
COLOMBIA *ECUADOR*	***Intended Nationally Determined Contributions*** *(INDCs)* *Colombia - the Government of Colombia completed 11 territorial adaptation plans and committed to develop climate change plans in 100 percent of national territory by 2030. The INDCs for Colombia also propose a national system of adaptation in which there are indicators to guide, monitor and evaluate the implementation of adaptation measures and tools for water management in priority basins nationally.* *Ecuador – the Government of Ecuador aims to restore and reforest 500,000 ha by 2017 and increase this total by 100,000 ha per year by 2025. Additionally, Ecuador's IDNC involves improving community water management, conservation of protected areas, and strengthening the resilience of vulnerable communities with a focus on food security and vulnerability analyses of infrastructure and water availability.*	***Components 1, 2 and 3***
COLOMBIA	***Paris Agreement:*** *Under this agreement, Colombia pledged to: 1) reduce greenhouse gas emissions by at least 20% by 2030; 2) achieve 10 specific actions for adaptation to climate change, including protection of moorlands and the creation of a national system of indicators to measure the traceability of climate change. Currently these commitments are being downscaled from a nationwide scale to a regional scale. Currently, six Departments are developing comprehensive plans for climate change.*	***Components 2 and 3***
BINATIONAL LEVEL ***BINATIONAL AGREEMENTS***		
BINATIONAL	***Binational Framework for Hydrological Services Colombia-Ecuador (IDEAM – INAMHI)*** *strengthens binational actions in common basins for monitoring under the Binational Committee of Transboundary Basins and the Integrated Water Resources Integrated Management.*	***Components 2 and 3***

BINATIONAL	***Border Agreement between the Governments of Carchi, Imbabura, Esmeraldas and Sucumbíos and the Departments of Putumayo and Nariño*** *to develop a binational territorial development plan and define binational border area priorities.*	***Components 1, 2 and 3***
BINATIONAL	***Integral Management Water Resources Plan for the Transboundary Watersheds Carchi Guaitara and Mira-Mataje:*** *developed a binational network (´Water Guardians´) that links technical capacity and scientific and ancestral knowledge to protect vital water resources and share lessons learned and knowledge to territorial stakeholders.*	***Components 2 and 3***
BINATIONAL	***Andean Regional Programme for Strengthening the Meteorological and Hydrological Services and Development****: seeks to strengthen binational hydrological and meteorological services in the region and provide climatic hydro-meteorological information and services for risk management for the benefit of vulnerable communities.*	***Components 2 and 3***
NATIONAL LEVEL ***NATIONAL ENVIRONMENTAL POLICIES***		
COLOMBIA	***Law 99 of 1993:*** *Integrates the National Environmental System with the National Risk Management System and guarantees the civil rights of the ethnic communities.*	***Components 1, 2 and 3***
ECUADOR	***National Environmental Policy:*** *3. Defines the goals for management of adaptation and mitigation of climate change, so as to reduce social, economic and environmental vulnerability*	***Components 1, 2 and 3***
NATIONAL CLIMATE CHANGE INSTRUMENTS FOR POLICY IMPLEMENTATION		
COLOMBIA	***Financial Strategy for Disaster Protection.*** *National Strategy responsible for identifying sources of funding for risk reduction.*	***Components 2 and 3***
COLOMBIA	***Sectorial Adaptation Plans:*** *for six priority sectors (transport, energy, agriculture, housing, health, tourism and industry); educational strategies and awareness-raising (IDEAM et al., 2015b), technical working groups on climate and agriculture, and an increase in protected areas of more than 2.5 million hectares (Government of Colombia, 2015; IDEAM et al, 2015b.).*	***Components 2 and 3***
ECUADOR	***Executive Decree 1815:*** *by which adaptation and mitigation to climate change is defined as state policy. Likewise, guidelines for the National Climate Change Strategy are formulated and delivered.*	***Components 2 and 3***
ECUADOR	***Interinstitutional Climate Change Committee*** *by* ***Executive Decree 495****,* ***Official Register 302, October 20, 2010****: high-level political body for coordination of policies and measures for climate change. The members of this committee are*	***Components 2 and 3***

	Ministers and Secretaries of State. The Climate Change Secretariat serves as the technical secretariat.	
	TERRITORIAL LEVEL ***PROGRAMS, PROJECTS, INSTRUMENTS RELATED TO CLIMATE CHANGE***	
COLOMBIA	***Departmental Climate Change Network of Nariño****: is coordinated by UNDP, regional universities, the Government of Nariño and the city of Pasto to advocate for protected areas, biodiversity and integrated management of binational watersheds.*	***Components 1, 2 and 3***
COLOMBIA	***Territorial Plan for Adaptation to Climate Change Nariño (PTAC – Nariño)*** *is under construction by WWF-CORPONARIÑO-Government of Nariño. The goal is to advocate for regional adaptation and mitigation to climate change to reduce carbon footprints via ecological restoration.*	***Components 1, 2 and 3***
	LOCAL LEVEL ***DEVELOPMENT PLANS***	
COLOMBIA	***Municipal Development Plan of Ricaurte 2016-2019****: aims to limit the agricultural frontier and protect natural areas, in order to contribute to climate change mitigation. It seeks to formulate four plans and projects in the context of adaptation and / or mitigation of climate change, in coordination with the PRICC-NARIÑO.*	***Components 1, 2 and 3***
COLOMBIA	***Municipal Development Plan of Tumaco 2016-2019:*** *Establishes programs on the issue of adaptation to climate change, including ecosystem protection and adaptation to climate change, recovery of water resources, awareness of environmental protection issues, increasing hectares protected for CO2 capture, creating monitoring systems, and mangrove recovery systems. Additional activities include integrated risk management through research and studies, monitoring systems and provision of tools for emergencies.*	***Components 1, 2 and 3***

Annex 8 – Relevant Binational Commissions

BINATIONAL COMMISSIONS, BOARDS AND COMMITTES		
BINATIONAL – Related to disaster risk management	***Disasters Risk Management Board:*** *responsible for defining binational actions that facilitate adequate responses to natural, anthropic and technological disasters, and the strengthening and promotion of risk management on a binational level.*	***Components 1, 2 and 3***
BINATIONAL – Related for forests	***Forests, Biodiversity and Protected Areas Board:*** *responsible for implementing the* ***Binational Action Plan for the Development of Forests, Biodiversity and Protected Areas*** *2013-2023. This plan promotes the sustainable use of biodiversity and forest resources, the control of illegal wildlife trafficking, the strengthening of the management of protected areas and the effective generation of governance. It also prevents, controls and monitors illegal fishing activities.*	***Components 1, 2 and 3***
BINATIONAL – Related to governance and populations	***Committee for Indigenous and Afro-Descendants Communities Affairs: s****trengthens binational agreements from the Afro-descendants bureau. It is divided into two working groups that develop strategies for: territory and environment, political, educational and institutional strengthening and civil rights and protection. The Grand Awá Family participates in this committee with two representatives from Colombia and one from Ecuador*	***Components 1, 2 and 3***
BINATIONAL – Related to water	***Transboundary Watersheds Committee:*** *is responsible for the overall management of water resources in the transboundary basins of Carchi-Guaytara and Mira-Mataje, guiding coordination and sustainable management.* ***Binational Forum*** *in* ***Esmeraldas:*** *The Neighborhood Commission called this forum in April 2015 between Afro-descendant communities and Awá communities in the border area to strengthen coordination and governance. During this forum, the Grand Family Awá advocated for the recognition of their ancestral lands as a single territory.*	***Components 1, 2 and 3***

Annex 9 – Social and Environmental Risks

Risk	*Category**		*Assessment and management measures*	*Monitoring, Evaluation & Reporting*	*Additional Information*
	Impact and probability (1-5)	*Significance (Low, medium high)*			
EXTERNAL RISKS WHICH MAY AFFECT THE PROJECT					
Increased illegal deforestation.	I =2 P=3	Medium	Baseline measurements of forest cover in conjunction with local authorities/communities.	Close monitoring by communities of activity in area, semi-annual reporting, and annual results reporting	Deforestation exacerbates CC risks and impacts, contributing to a decrease in ecosystem services and increased FSN. Project will seek to monitor in conjunction with authorities and communities.
Attacks on TransAndino Pipeline affects water quality and FSN	I=3 P-3	Low to Medium	Ecopetrol has security measures in place.	Environment ministry studies of hydrocarbon concentrations in sediments and fish tracked and reported on annually	Peace accord ratification and negotiations with other groups will reduce risk of attacks on pipeline.
IMPLEMENTATION RISKS WHICH MAY AFFECT PROJECT RESULTS					
Introduction of drought resistant species negatively reduces interest in native species	I =2 P=1	Low	Any introduced seeds, seedlings, rootstocks etc. must first be verified by CIAT and respective Ministries of Agriculture.	Monitor/evaluate semi-annually & report annually any potential effects	CIAT and other academic and government institutions are actively investigating plant species resistant to climate effects such as flooding, rot, and drought.
Project does not adequately achieve results at a landscape level (geographical target area not fully covered)	I =2 P=1	Low	Mitigation; Component 2 will sufficiently analyse climate threats by agro-ecological zone. Communities will receive training and incentives if required to	Climatic events monitored; GIS mapping of project activities	Meeting with stakeholders emphasize the importance of micro watershed planning and will be the basis of all planning exercises.

due to political and security factors			actively participate in selected activities.		
Communities lose interest because results are more longer term or illicit economies or extractive crops are more attractive	I =1 P=1	Low	Participatory approaches are integrated at all stages of the project.	Community based monitoring and perception studies carried out	Culturally sensitive participatory methods developed and used. Ownership approaches promoted in all activity implementation.
Gender empowerment and equality not fully supported by male-dominated leadership	I =2 P=2	Low	Based on semi-annual evaluation, WFP's participant feedback mechanism for grievances can be activated as needed	Women as CC adaptation participants/leaders monitored from outset. Semi-annual reports and annual results reporting	Program design focuses on women as leaders of adaptation. Their role and ability to be recognized will be assessed at project outset and semi-annually.
Project-sponsored water harvesting actions result in contaminated drinking water	I =3 P=1	Low	Sanitation/purification methods assessed and implemented, bacteriological testing and training carried out in conjunction with regional health entities.	Baseline, semi-annual Monitoring, Evaluation; Annual Reporting on water quality and health assurance methods and techniques to ensure water means health standards	Water harvesting methods analyzed and sanitary measures and/or filtration to ensure portability are assessed from a cultural and economic perspective. Point of use (PoU) purification methods will also be assessed.
Actions which include western science or technology are not fully embraced by Awá due to conflict with their Cosmo vision perspective.	I =1 P=2	Low	Project Components 1 and 2 will be fully developed and adopted by communities and leaders before identifying and finalizing community adaptation plans.	Baseline, semi-annual Monitoring, Evaluation; Annual Reporting and adjustment if required	Awá peoples Cosmo vision is different from western perspectives and does not embrace all technologies.

Project labour by community members does not meet national or ILO codes	I =2 P=1	Low	Verify labor codes to be followed through local, departmental and national authorities. Ensure compliance with ILO codes prior to works.	Baseline, semi-annual Monitoring, Evaluation; Annual Reporting	National and International labor codes will be adhered to. Also *minga* (Awá collective community work) must be authorized by community leaders.
Tension between ethnic communities and regional institutions affects implementation and project benefit allocation.	I =2 P=2	Low	Project management is aware of this dynamic and will continue to assess and manage the relationships through training activities and meetings.	Baseline, semi-annual Monitoring, Evaluation; Annual Reporting	The role of project leaders in monitoring and assuring that any existing or developing tensions are mediated and resolved.
Change of government or other key stakeholders in Ecuador or Colombia which negatively affects the project.	I =3 P=1	Low	Any change in governments or mandates will be assessed by the project management team. Liaison with officials to explain the project and anticipated outcomes.	Evaluation of potential changes in lead-up to election in Ecuador (2017) and Colombia (2018) will be carried out	Project objectives and outcomes are in line with binational and national climate change and food security policies, thus preventing a major change in policy direction.

According to the Adaptation Fund's Environmental and Social policy this project has been screened for its potential environmental and social impacts. Following the policy:

- **Category A** projects are those which expected to have significant adverse environmental or social impacts that may be widespread, and irreversible
- **Category B** projects may have potential adverse impacts less adverse or fewer in number, smaller in scale, less widespread, reversible or easily mitigated
- **Category C** projects are those with no adverse environmental or social impacts.

The risk screening and assessment carried out has included the 15 core principles identified in Table L as well as elements identified in Tables 9 and 10 and Annex 9. The project is in compliance with the 15 core social and environmental principles of the fund as described in Table L and the range of financial and implementation risks outlined in Table 9 are ranked as low. In Table 10, Environmental and Social Risks, there are 3 risks which have been determined to be low. Similarly, the risks elaborated upon in Annex 9 which come from project implementation are ranked as low. As such based on the Risk Screening exercise

and following the Environmental and Social Policy of the Fund the overall risk ranking for this project is **Category C**. Described risks will be monitored starting from project outset, and should any risks arise they will be managed according to the measures outlined. This will be carried out in alignment with the project management structure and through consultation with any affected communities. Additionally, the project will have in place an Environmental and Social Management Plan (ESMP) which can be utilized if and where required, potentially for Component 3 activities wherein communities will select from a range of adaptation measure to suit their specific needs. The ESMP may be utilized for some of these activities.

The following is a break-down of Components along with a statement of their potential environmental impact and categorization ranking. Note that Components 1 and 2 are comprised of studies, workshops, sharing sessions, fairs, and training sessions on Climate, EWS, web-learning platform and a compilation of best practices. Disaster Management and Emergency Preparedness and Response that have essentially zero environmental impact. Component 3 "Reduce Climate vulnerabilitiesthrough innovative community and ecosystem-driven adaptation measures that reduce food insecurity" has concrete adaptation measures that are evaluated for potential impact below as a rationale for their categorization ranking.

TABLE A1

Component 3: Reduce recurrent climate vulnerabilities through innovative community and ecosystem-driven adaption measures that reduce food insecurity		**Potential Environmental Risk or Impact**	**Category**
3.1. Improved access to livelihood assets, enhanced resilience and reduced risks from climate shocks in food-insecure communities and households.	3.1.1**.** Participatory approaches developed, interfacing scientific and traditional knowledge	**nil**	"C"
	3.1.2. Effective adaptation measures designed and implemented incorporating participatory approaches, traditional and local knowledge and tested techniques to recover of degraded ecosystems in 120 communities	**near to zero risk, likely positive impact**	"C"
	3.1.3. Community water harvesting, storage and management measures introduced	**near to zero risk, likely positive impact**	"C"
	3.1.4. Cost-benefit analysis of proposed adaptation measures at micro-watershed level	**nil**	"C"
	3.1.5. Native species reintroduced to diversify production and consumption and for commercialization, including introduction of organic and agro-ecological crop production practices and ocean species	**near to zero risk, likely positive impact**	"C"
3.2 Increased adaptive capacity and ecosystem resilience to respond to climate threats and food insecurity.	3.2.1. Soil management activities implemented, including agro-forestry and native nitrogen-fixing species	**near to zero risk, likely positive impact**	"C"

Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) of this project "Building adaptive capacity to climate change through food security and nutrition actions in vulnerable Afro and indigenous communities in the Colombia-Ecuador border area" utilizes the existing project management framework to keep track of identified risks, or any new risks, ensure they are properly monitored, evaluated, and reported upon, and that they comply with national laws and the Adaptation Fund's Environmental and Social Policy. Should any new risks arise, whether social or environmental, the ESMP can be enacted. The management plan consists of 4 main steps:

1. Activity description and screening for environmental or social risks
2. Verification by local and national authorities in Colombia and Ecuador
3. Performing additional environmental and social assessments, if needed
4. Monitoring

Step 1
Project activities to be screened for their potential adverse environmental and/or social impacts are those planned under component 3. These activities will be designed by the communities through participatory community consultations which will include environmental and subject experts. Specific design will therefore be determined as the project progresses and will be tailored to the needs of the targeted communities.

As soon as an activity is defined, the project implementation team will fill in a screening form. This form will include detailed information on the planned activity (exact size, location, materials, projected use, projected management and maintenance), land status and ownership, and utilize information from consultation processes carried out with communities and relevant governments and stakeholders. As a result of these screening checklists, the project implementation team will also be able to identify any potential impacts the activity could have on the environment or communities. The screening will be repeated for each component 3 activity planned under the project.

Step 2
Once completed, the activity description and screening form will be submitted to the relevant level of government for verification. In Colombia these are the departmental regional autonomous corporations (*CARs*) in this case Corponariño, and in Ecuador accredited decentralized autonomous governments (*GADs*) or the Ministry of Environment (if a province is not yet accredited). The government authority can then confirm the category of the project.

Should the activity be considered as a Category C then no further environmental or social assessment would be required. The authority can give their approval for the community to proceed with implementation of the activity. Should any component 3 activity not be considered as Category C by the authority, further assessment or a change in design would be required.

Community involvement and participation in the environmental and social aspects of the project will start at activity design stage. All activities will be designed in conjunction with the targeted households and communities, and based on a context-specific assessment of the constraints they face and their needs. Communities will be involved in activity screening, or

additional assessments along with subject experts, leaders, and authorities. Monitoring will be carried out as part of the project management structure for any screening exercise invoked.

Step 3

No Category A ranked-projects are part of this project, and it is unlikely that any activity will be ranked as a Category B. Any such project would need to be changed so as to comply with Category C ranking. Further assessment would be required following changes to the activity by the community and a new screening form submitted for verification of Category C ranking.

Step 4

All activities will be monitored following schedules outlined in Section D Part III, and will comply with local, departmental, provincial and national laws, and the Environmental and Social Policy of the Adaptation Fund. Participants will be made aware of the WFP grievance Mechanism for any criticism or complaint of an activity.

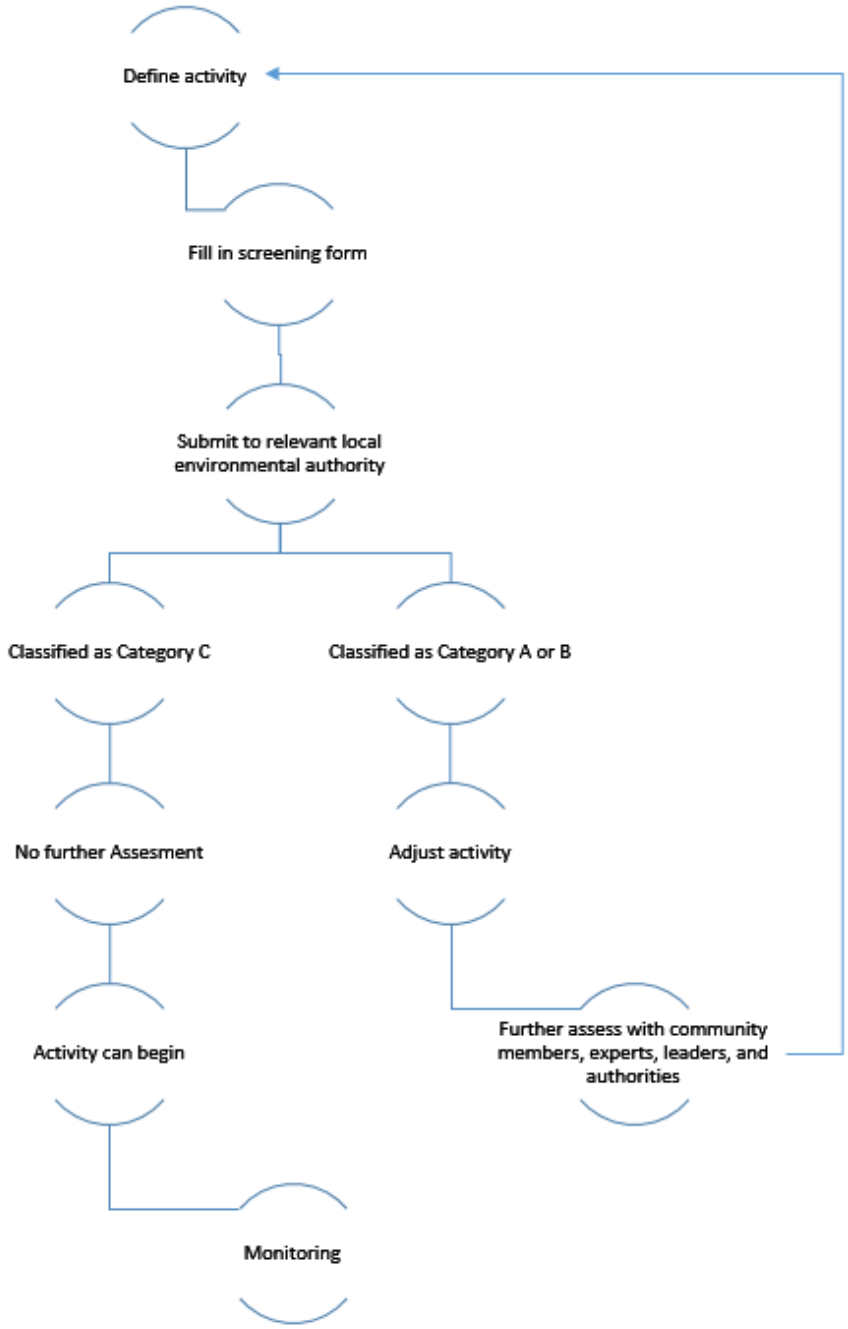


Figure A 1: Environmental and social management plan

WFP Grievance mechanism

WFP already has grievance mechanisms in place in both Nariño and Carchi and Esmeraldas to allow project participants a rapid and efficient means of communicating any concerns they may have concerning project design and implementation. These mechanisms consider the special needs of different ethnic groups as well as gender considerations. A hotline offers immediate recourse for project participants to express their concerns in a transparent fair and effective manner. The hotline will offer services in local languages and Spanish, and offer the opportunity for project participants to provide suggestions on how to improve project implementation. The hotline is available to project participants for comments or grievances 24 hours every day. WFP personnel are trained in procedures for receiving calls and on the reporting of any grievances.

In addition monitoring activities carried out on a monthly basis allow project participants to voice their opinions or complaints as they may see fit. A questionnaire will be used to understand participants' perceptions of the project and capture suggestions to improve project implementation. The questionnaire will be applied through focus groups and on individual basis.

These grievance mechanisms will be made available to all communities in the project area and reported in the Environmental and Social Management Plan. Community leaders also will be changed with obtaining feedback from community members in a regular basis.

Annex 10 – Vulnerability analysis of Afro and Awá communities in the Mira-Mataje and Carchi-Guaitara watersheds

In general climate change in conjunction with a range of other socio-environmental and other factors has greatly affected the Awa and Afro communities, their livelihoods, and FSN in the target binational watershed. In order to confirm priority target areas for the proposal, map overlays detailing 6 key environmental factors were combined with recurrent food insecurity and nutrition data for the binational area, in order to determine the relative ranking of zones of vulnerability. The 7 factors utilized were derived from stakeholder and community meetings and workshops, where participants identified climate threats in their part of the binational area. The 7 key factors were chronic malnutrition, erosion, flooding, deforestation, land use conflict, water contamination and drought.

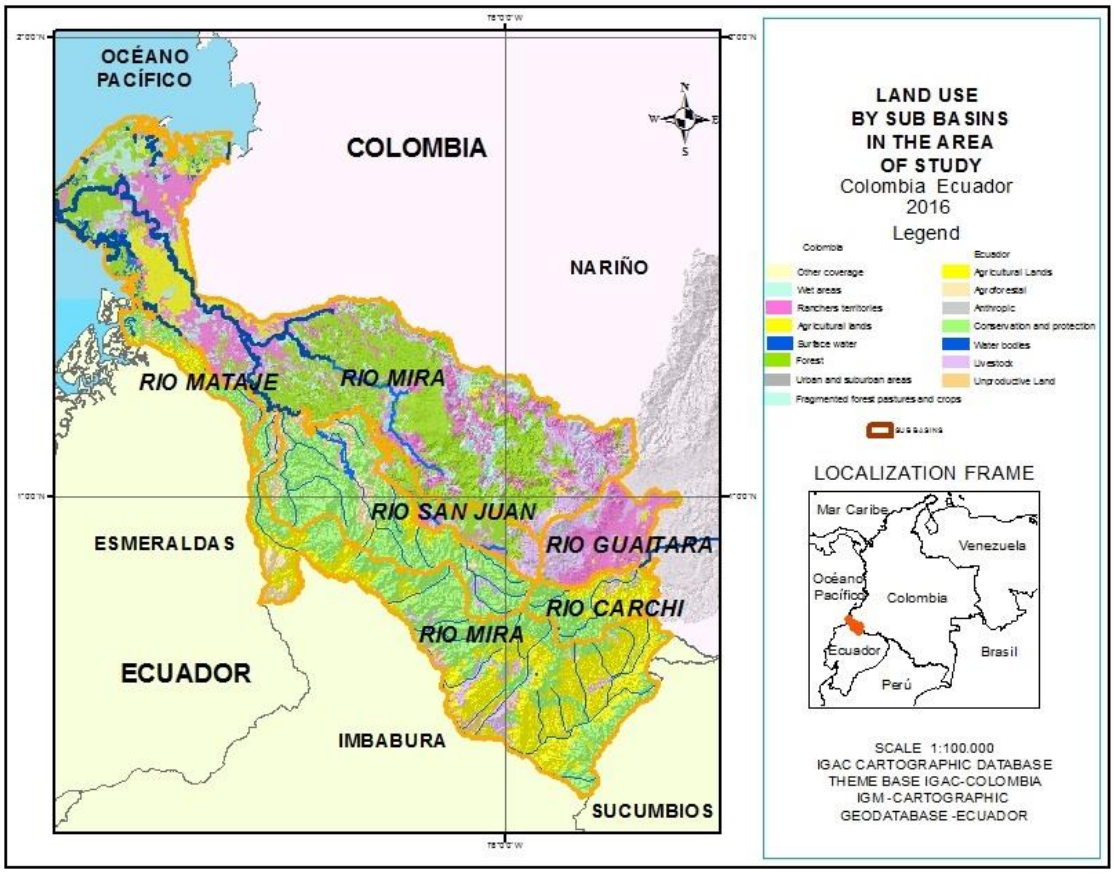
Map 1 below shows the target area as well as the Afro and Awá communities located within the watersheds. The Afro populations dominate the coastal areas and are also found upland; but more on the side of Ecuador. The Awá population is mainly in the central and upper reaches of the watershed and target area.

MAP 1
Communities by River Subareas

In Map 2 the broad range of land uses found in the region are shown; drainage patterns are also visible including major rivers in the area. Note that much of the area shown in Map 1 as

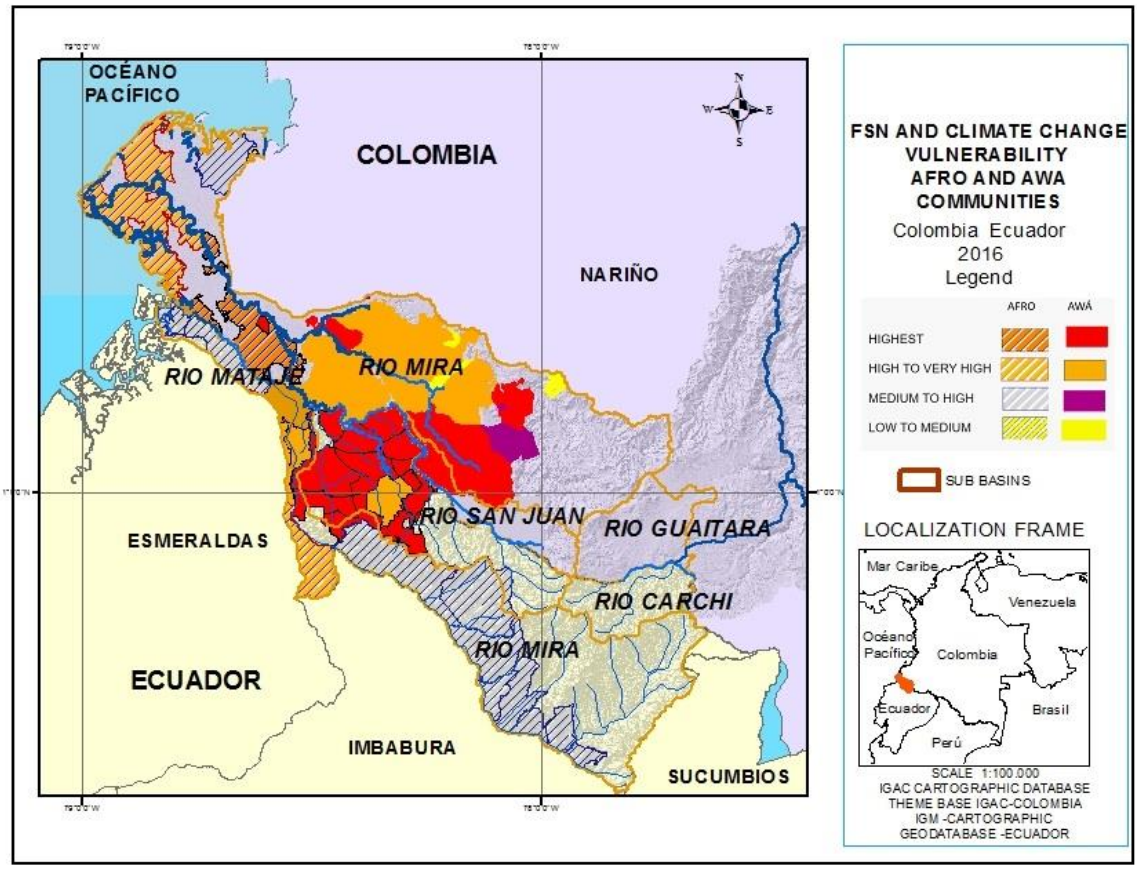
being Awá territory is represented in Map 2 as being part of conservation or protected areas. Another immediately noticeable element is the predominance of ranching and livestock operations in 3 main areas; the Guaitara upland watershed, and 2 areas nearer to the coast. These types of operations can be associated with water issues including erosion into rivers following land-clearing and decrease in water quality due to contamination, particularly during heavy rain and run-off events.

MAP 2
Land Use in Binational watersheds



Map 3 is the composite map which takes 6 of the 7 key factors listed above and then overlays them with FSN data, more specifically recurrent food insecurity and malnutrition information derived by national agencies from both sides of the border. This vulnerability map is derived by ranking each of the 6 themes on a scale of 1 to 4 from low to highest and then tabulating the data in conjunction with the map of recurrent food insecurity and malnutrition. What is most striking about the map at first glance is the prevalence of zones with higher vulnerabilities, shown in red and orange for the Awá communities, and in orange or blue with cross-hatching for Afro communities.

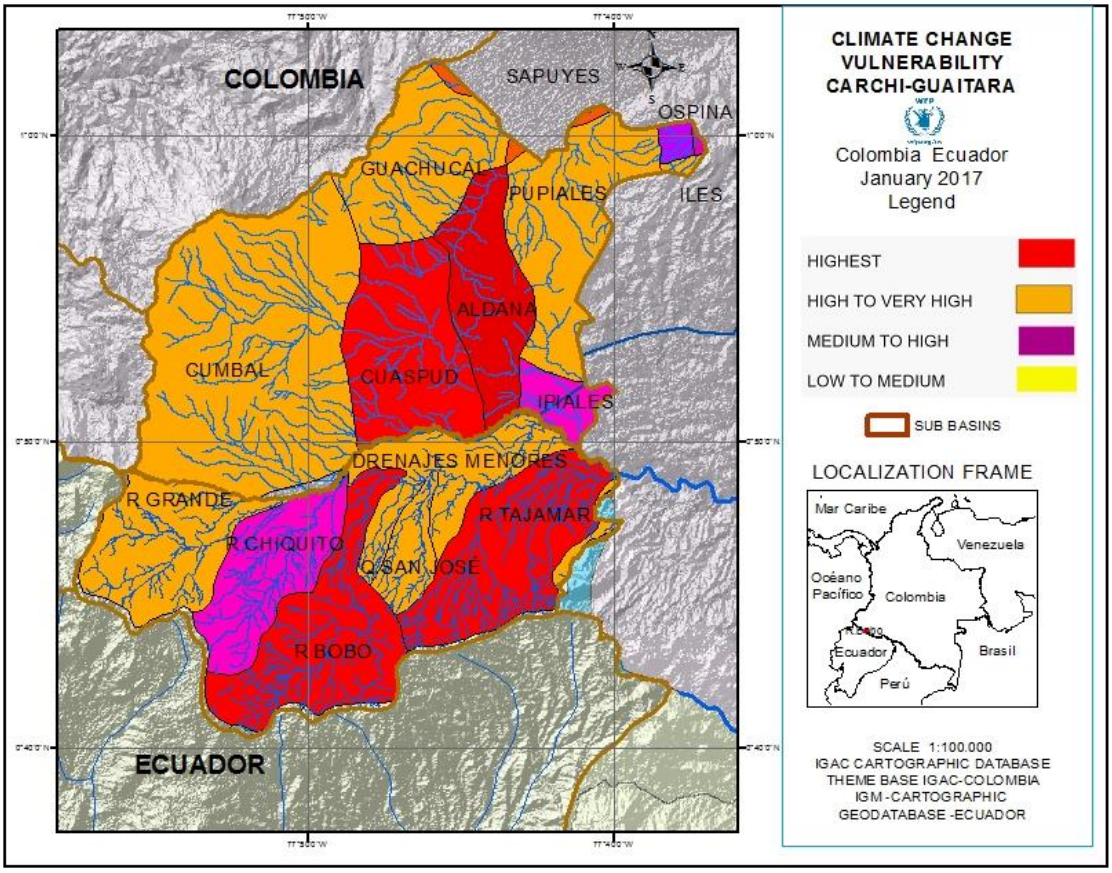
MAP 3
FSN and Climate Change Vulnerability of Afro and Awá Communities



It should also be noted that even the least vulnerable areas shown on the map, that is zones mapped as having low to medium vulnerability, are still susceptible to the effects of climate change and food insecurity, particularly when viewed in conjunction with other socio-environmental factors. Furthermore FSN issues dominate in most communities in the target area.

Also included as part of the analysis is Map 4, the Guaitara-Carchi binational watershed. As was noted previously its importance as a key tributary feeding the Mira –Mitaje system cannot be overstated. Land use conflicts and issues such as deforestation and erosion, in conjunction with other socio-environmental factors, are exacerbated by climate change and climate shocks; the combined effects of these factors greatly influence the downstream environment and communities located there.

MAP 4
Climate Change Vulnerability Carchi - Guaitara



In summary, the FSN and Climate Change Vulnerability maps prepared as part of the analysis undertaken to prepare this project proposal serve not only as an analytical tool and evidence of the vulnerability of the Awá and Afro target area communities, but also of the urgent need to address these issues as part of this Adaptation Fund proposal.

Annex 11 – Cost-benefit analysis of proposed adaptation measures

This cost-benefit analysis was carried out for potential concrete adaptation measures considered under component 3. A detailed analysis of activities will be presented during project implementation as part of activity 3.1.4. The CBA carried out reports on both direct and indirect benefits. Direct benefits are calculated as incomes generated by the proposed activities, or as losses avoided in terms of assets and products (including agricultural production and livestock). Sources of data include national databases and surveys from different government entities and business organizations, as well as fieldwork exercises and surveys performed in November and December of 2016. Indirect benefits are calculated as additional returns, above and beyond the initial investment, that can potentially multiply positive impacts of activities. All prices are in US dollars.

Concrete activity	Financial cost	Direct benefit Year 5	Direct benefits Year 10	Return rate	Indirect benefits
Improvement of soil quality through the introduction and recovery of vegetative cover and use of good agricultural practices, to mitigate impacts of heavy rains in areas highly affected by erosion and drought					
Vegetative recovery of affected soils	2,100	1,275[82]	2,322	NPV with a discount rate of 5 percent at year 5[83] 7,028.41 Cost-benefit (CBA) Rate = 1,04	Improved soil fertility Reduced erosion
Agroforestry	1,400.6	2,473.9[84]	3,809.05	NPV: 12,736 CBA Rate = 2,30	Income generation Incorporation of traditional knowledge and practices Improved soil fertility
Family gardens and introduction of organic products	3,000	2,465.56[85]	3,132.64	NPV: 710 CBA Rate = 1,06	Diversified crop production, including Tubers, fruits, roots and legumes Recovery of medicinal plants

[82] Cost calculated per hectare. Benefits calculated as losses avoided in terms of livestock, assets and crops. Estimates from field work and surveys in targeted areas.
[83] Discount rate used taken from CBA manual published by MAE.
[84] Crop yields were obtained from the book: The cultivation of the tree tomato by Revelo, Pérez y Maila (2010). Selling prices were obtained from: http://www.bolsadeproductos.com.ec/precios.html and http://sinagap.agricultura.gob.ec/index.php/mercados.
[85] Prices for sales of poultry and small livestock obtained from the following webpage: http://www.bolsadeproductos.com.ec/precios.html y http://sinagap.agricultura.gob.ec/index.php/mercados; y . http://articulo.mercadolibre.com.ec/MEC-410722215-venta-de-conejoscuyes-gallinas-y-huevos-de-campo-_JM

Implementation of water storage, capture and harvesting systems to increase water availability for agricultural use and human consumption					
Distribution of water for human consumption	27,000	21,799.9[86]	27,078.1	NPV: 94,991.05 CBA rate = 3.16[87]	More time dedicated to livelihood activities, especially women, with children having more opportunity to go to school Easy access to clean water Reduction in rates of morbidity and mortality from better access to, and quality of water
Community water reservoirs for agriculture	4,457.8	4,607.4[88]	5,880.3	NPV: 9,638.10 CBA rate = 1.16	Job creation Water use efficiency saving of 20 – 30 % in short-cycle crops, 30 – 60 % in citrus and orchard fruits Increased community cooperation
Protection and regeneration of forest areas, incorporating ancestral knowledge					
Conservation and increased use of native seeds	2,500	4,200[89]	5,360.4	NPV: 13,234.02 CBA Rate = 1.44	Regulation of hydrological cycle in the watershed Improved biodiversity
Diversification of food production, consumption, leading to improved health of the population Recovery of traditional practices to ensure food security					
Recovery of degraded river ecosystems by natural regeneration and reforestation	2.500	9,003.73[90]	10,938.73	NPV: 58,562.18 CBA Rate = 2.60	Restoration of traditional practices through increased community cooperation Improved ecosystem services for livelihoods Increased incomes and fish availability for self-consumption Protection of coast line against natural

[86] Intervention at level community. Benefits corresponding to savings, medical expenses, transportation and inability to work due to illness, taken from the Water Supply and Sanitation program, of the Secretariat for Water and Sanitation, SENAGUA, 2015.
[87] The benefits of this intervention are multiple in terms of improved health and resulting increase in incomes and savings made by families. Given the high rates of malnutrition and their impacts on livelihoods of targeted populations, return rate is significant.
[88]Project carried out at community level, costs and benefits from webpages:
http://www.bolsadeproductos.com.ec/precios.html and http://sinagap.agricultura.gob.ec/index.php/mercados
Investment costs obtained from an interview with P.Eng Diego Yanchapaxi, (agricultural technician) and prices validated by P.Eng Julio Terán, Manager of *Plastigama*. Sales prices also validated during field work carried out in December 2016.
[89] Project carried out on one hectare of community land. Investment costs upkeep and care of plants from an interview with Holger Rogel, Coffee Program Technician wih Municipal Support Project for Enterpreneurs, CONQUITO. Data used from the text by: Jezeer, R.E. & Verweij, P.A. (2015) Coffee in AgroForest Systems- Double dividends for biodiversity and small producers in Peru. Hivos, The Hague, Holanda. Sales prices from webpages:
http://www.bolsadeproductos.com.ec/precios.html and http://sinagap.agricultura.gob.ec/index.php/mercados.
[90] Productivity, size of catches, and prices used for fish products from visits with communities of Punta de Miguel, Changuaral, El Viento y Pampanal during early December 2016; validated in San Lorenzo with licensed authority Manuel Valencia.

					disasters, including tsunamis
Increased adaptive capacity, through the recovery of mangrove and tropical forests to ensure sustainable livelihoods and food security					
Propagation of mangroves	450	733.86[91]	936.61	NPV: 710 CBA Rate = 1.06	Increased diversity of fish and molluscs Reduced potential damages produced by floods in coastal areas

[91] Benefits calculated with information of prices used for seafood products. Species prices from pages: www.iniap.gob.ec, http://www.bolsadeproductos.com.ec/precios.html and http://sinagap.agricultura.gob.ec/index.php/mercados. La