



# PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

## PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular Project/Programme
Country/ies:	El Salvador
Title of Project/Programme:	Enhancing climate resilience of rural communities and ecosystems in Ahuachapán -Sur, El Salvador.
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	United Nations Development Programme
Executing Entity/ies:	Ministry of Environment and Natural Resources (MARN)
Amount of Financing Requested:	\$8,484,502.92 (in U.S Dollars Equivalent)

### Project / Programme Background and Context:

#### National Background

1. El Salvador, has been identified by the International Panel on Climate Change (IPCC) as one of the countries with the highest sensitivity to climate change<sup>1</sup>. According to the Fifth Assessment Report of the IPCC, the country is characterized by a high exposure to geoclimatic threats, resulting from its location and topography, exacerbating climate change induced risk and vulnerability of human settlements and ecosystems<sup>2</sup>. The Global Climate Risk Index for the period between 1997 to 2016, covering both human and economic impacts, ranks El Salvador 16th in the world, emphasizing the country's high vulnerability to extreme climate events<sup>3</sup>. There is ample evidence of climate change and variability affecting all sectors of society and economy, at different spatial and temporal scales, from intra-seasonal to long-term variability as a result of large-scale cyclical phenomena<sup>4</sup>. A study from The Economic Commission for Latin America and the Caribbean (ECLAC) found that between 1980 to 2008, an average of 1.5 natural disasters per year resulted in nearly 7,000 human casualties, affecting 2.9 million people, and costing US \$470 million to the central government (amount that is equivalent to 4.2% of the Gross Domestic Product). The country of El Salvador spends an equivalent to 1.1% of its total GDP with dealing with climate change related impacts and infrastructure every year on average.

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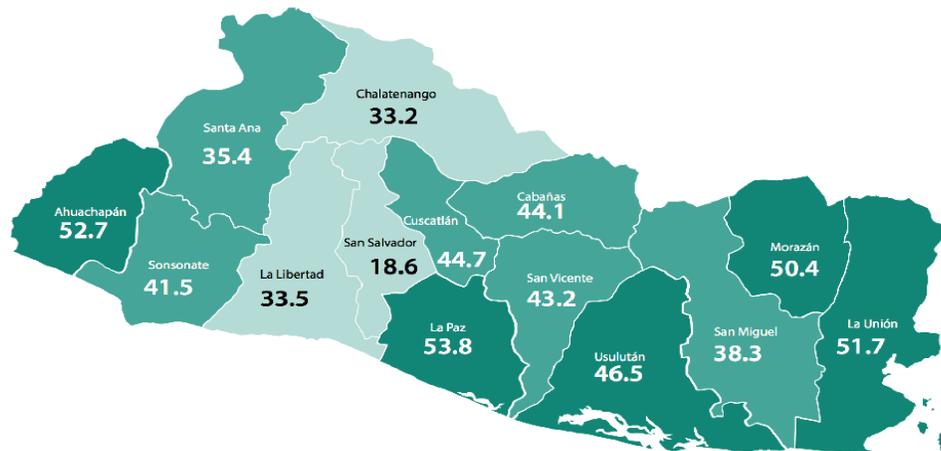
<sup>1</sup> D. L. Hartmann, a. M. G. K. Tank, and M. Rusticucci, "IPCC Fifth Assessment Report, Climate Change 2013: The Physical Science Basis," *ipcc* AR5, no. January 2014 (2013): 31–39, <https://doi.org/10.1017/CBO9781107415324>.

<sup>2</sup> IPCC, "Climate Change, Adaptation, and Vulnerability," *Organization & Environment* 24, no. March (2014): 1–44, [https://doi.org/http://ipcc-wg2.gov/AR5/images/uploads/IPCC\\_WG2AR5\\_SPM\\_Approved.pdf](https://doi.org/http://ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf).

<sup>3</sup> Sönke Kreft and David Eckstein, "Global Climate Risk Index 2014," *Germanwatch*, 2013, 28, <http://germanwatch.org/en/download/8551.pdf>.

<sup>4</sup> (Cai et al., 2015; Harger, 1995; Neelin et al., 1998; Takahashi et al., 2011; Torrence and Webster, 1999; Wolter and Timlin, 2011)

2. El Salvador is the most densely populated country in Central America (342 people per km<sup>2</sup>) with a population of approximately 6.46 million inhabitants, of which 52.9% are women<sup>5</sup>. The country's territory totals 21,040 km<sup>2</sup>, with a rugged topography (50% of total land mass has slopes of over 15%), highly erodible soils and the lowest per capita availability of freshwater in Central America<sup>5</sup>. According to the measurement of compound poverty<sup>6</sup>, 35.2% of the total Salvadoran households are poor, equivalent to 606,000 homes to approximately 2.6 million people. Similarly, the multidimensional poverty rate in rural areas is 58.5%, and 22.5% in urban areas. Thirty-eight percent of the country's population resides in rural or non-urban areas, of which 20% are women<sup>7</sup>. In all the departments, other than one, over 50% of rural households are multidimensionally poor and as such are more vulnerable to the effects of climate change (**Figure 1**). Homes with this condition have the following deprivations: 37% food insecurity; 49% lack of access to drinking water; 83.7% no access to public health.



**Figure 1** – Incidence of Multidimensional Poverty per region in El Salvador. Source: DIGESTYC, 2015<sup>6</sup>.

3. Sixty percent of the national territory is devoted to agriculture, which is the main source of livelihood for the rural population in the country. About 36% of the total country territory is arable land, with corn as the main subsistence crop, followed by rice, beans, oilseeds, and sorghum, and with the cultivation of coffee and sugar cane as major cash crops

4. The effects of climate change, as observed over recent years, have directly affected the productivity across the whole spectrum of the agricultural sector, with significant impacts on smallholder farming<sup>8</sup>. According to the last agricultural census, there are more than 325,000 producers of basic grains who work in land parcels of sizes ranging between 0.7-3 hectares. Not surprisingly, 52.4% of the farmers organize their agricultural activity in parcels averaging 0.7 hectares, with an average corn production of 1.427 kg/ha. This production may satisfy the immediate needs of a family household (requiring only 1,300 kg of corn per year), but is significantly lower than the national average production (2,575 kg/ha). Impact from extreme weather such as the tropical storm Mitch (1998) caused damages and total loss of US \$388.1 million, with US \$158.3 million (40.8% of the total) impacting the agricultural sector. The 2001, drought reported damages and loss for US \$31.4 million and 81% for the farming industry. Hurricane Stan (2005) caused US \$355.6 million in damages and loss, US \$48.7 million and

<sup>5</sup> Ministry of Economy; General Directorate of Statistics and Census –DIGESTYC; El Salvador: 2014; Estimates and Trends of Municipal Population 2005-2025

<sup>6</sup> STPP and MINEC-DIGESTYC (2015). Multidimensional Measurement of poverty. El Salvador. San Salvador: Technical and Planning Secretariat of the Presidency and the Ministry of Economy, through the General Directorate of Statistics and Census. **Compound Poverty:** Takes into account the essential areas for human development and well-being. A total of twenty indicators around five essential well-being dimensions: a) education; b) housing conditions; c) work and social security; d) health, basic services and food security; and e) quality of the habitat.

<sup>7</sup> STPP & MINEC-DIGESTYC, “Medición Multidimensional de La Pobreza. El Salvador.,” *San Salvador: Secretaría Técnica y de Planificación de La Presidencia y Ministerio de Economía, a Través de La Dirección General de Estadística y Censos.*, 2015.

<sup>8</sup> Minerva Campos et al., “Estrategias de Adaptación Al Cambio Climático En Dos Comunidades Rurales de México y El Salvador,” *Adaptation Strategies to Climate Change in Two Rural Communities in Mexico and El Salvador*, no. 61 (2013): 329–49, <http://www.boletinage.com/61/16-CAMPOS.pdf>.

13.7% of the total for the agricultural sector. The Tropical Depression Twelve-E (DT 12-E) in 2011 carried a price tag of US \$306 million in damages and losses in the agricultural sector. Between 2014 and 2015, losses in agriculture, as a result of severe drought, costed the country more than US \$140 million, with greater impact felt on subsistence crops (corn and beans), as well as in the dairy industry which lost more than 10% of its production. The sustained dry spell followed by high temperatures, has also caused severe damage to the health of human populations, to the broader agricultural sector, and the natural environment. Furthermore, the reduction or deficiency in rainfall over the period has also affected the availability and quality of superficial and underground water resources.

5. More needs to be done in order to adapt productive systems, diversify livelihoods, and enhance community resilience in the face of climate change, given the fact that, the impacts we see now will continue and will be exacerbated by the predicted increase in frequency and intensity of droughts as a result of higher temperatures and rainfall variability in the country<sup>9</sup>. The current situation showcases the lack of broad economic strength, low levels of diversification and technology, with direct consequences to flexible and effective adaptation.

### Extreme weather hazards and climate change in El Salvador

6. El Salvador is currently impacted by the effects of climate variability and change, with highly variable rainfall patterns, both spatial and temporal, which is leading to an increase in the number of extreme climatic events (i.e. tropical cyclones, floods and droughts). Over time, El Salvador has passed from experiencing one event per decade in the sixties and seventies, two in the eighties, four in the nineties, to eight extreme events in the last decade. This shows a shift from previous decades, when extreme events hitting the country would originate mostly from the Atlantic Ocean, and had its first wave of impacts mitigated by the land mass of neighbouring countries. This is no longer the case, since the frequency and intensity of tropical cyclones originating from both the Atlantic and the Pacific Oceans has increased over the past two decades (Figure 2).

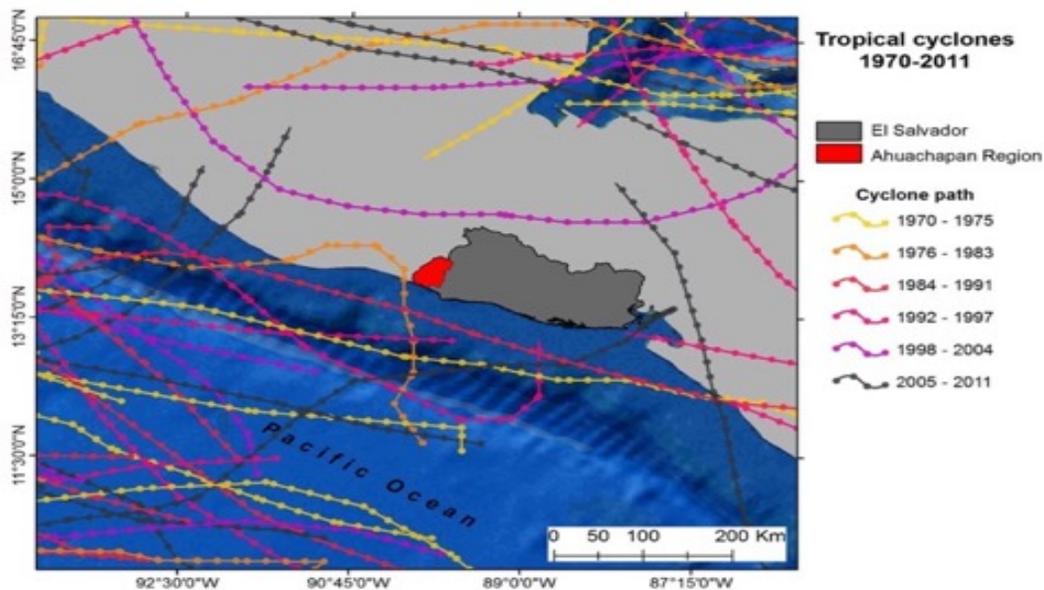


Figure 2 – Paths of tropical cyclones in the region between 1970-2011. Source: NOAA, 2012.

7. In 2010 the, UNDAC placed El Salvador as the most climate change vulnerable country in the world, with 95% of its population at risk from natural disasters. Overall, the most important historic trends on climate are here summarized, as follows (Table 1):

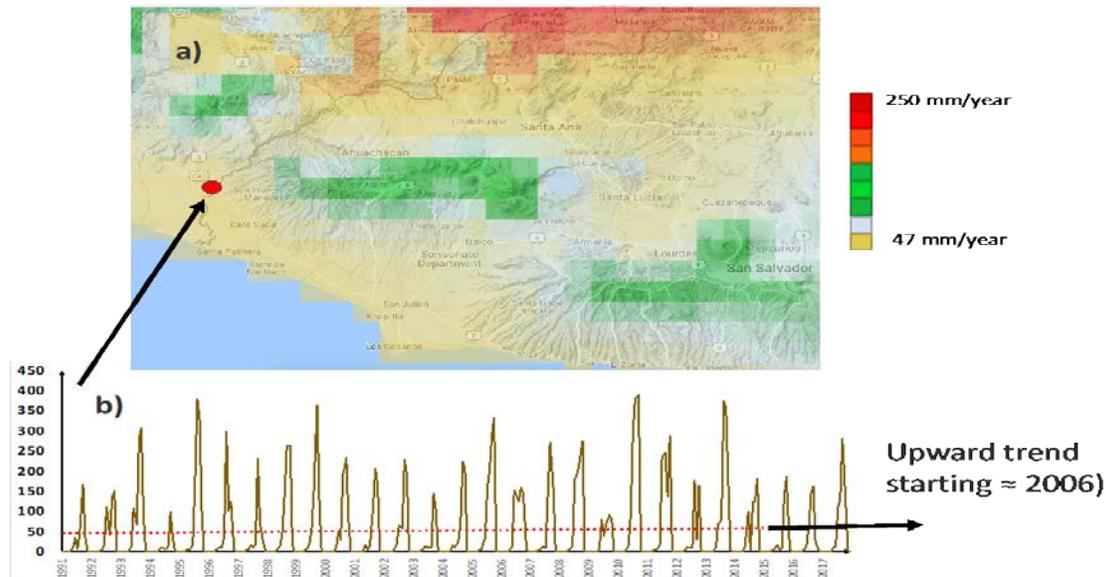
<sup>9</sup> Ipcc, “Working Group I Contribution to the IPCC Fifth Assessment Report, Climate Change 2013: The Physical Science Basis,” *Ipcc AR5*, no. March 2013 (2013): 2014, <https://doi.org/10.1017/CBO9781107415324.Summary>.

**Table 1** – Summary of historic climate trends in El Salvador.

Historical climate trends since the 1950s include:	Projected changes in climate by the 2050s include:
<ul style="list-style-type: none"> <li>▪ A 1.3°C average increase in temperature</li> <li>▪ An increase of warm days and nights, decreased cold days and nights,</li> <li>▪ An increase of the frequency and intensity of extreme rainfall events, from 1 per decade (1960–1980) to 8 per decade (2000–2010); since 2009, a series of extreme rainfall records have been set;</li> <li>▪ Decreased overall precipitation and more variable precipitation patterns,</li> <li>▪ Increased drought and dry periods (consecutive days without precipitation),</li> <li>▪ Sea level rise of 7.8 cm.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased temperature of 1.4°–2°C,</li> <li>▪ Decreased precipitation by 2–15 percent,</li> <li>▪ Longer and drier periods of drought,</li> <li>▪ Increased frequency and intensity of weather and climate extremes, including increased rainfall during hurricanes,</li> <li>▪ Sea level rise of 18 cm by 2050 and 37–44 cm by 2065.</li> </ul>

8. Studies from the National Service of Territorial Studies (Servicio Nacional de Estudios Territoriales, SNET) reveal that at least 10% of the country is prone to floods, 20% percent is exposed to landslides, 50% is affected by drought. Natural disasters have taken lives, damaged infrastructure, and affected social and economic development. The poorest segments of the population are particularly hit by natural disasters, as they are more likely to live in hazardous parts of the territory, such as flood plains, river banks, steep slopes, and fragile buildings in densely populated zones.

9. A combination of extreme onset of rainfall, extended dry periods, poor land and water management has contributed to increased runoff as seen in the lower parts of River Paz (Figure 3).

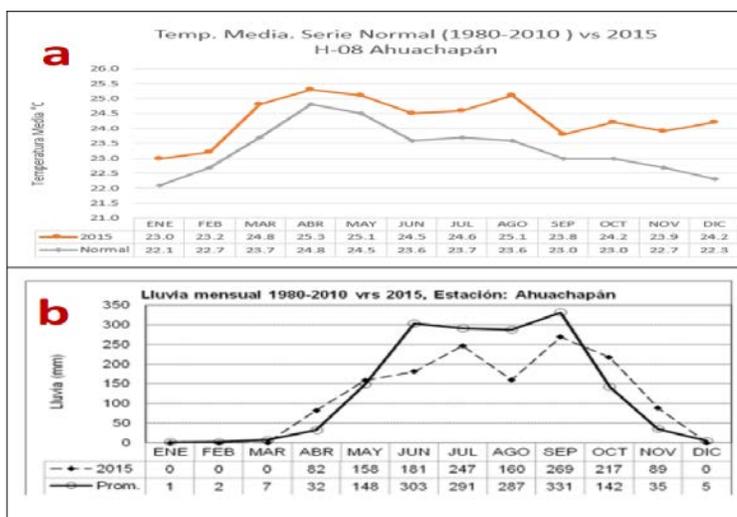


**Figure 3** – a) Average yearly runoff b) Runoff anomaly trend 1991 – 2018, lower Rio Paz region in San Francisco Menendez, El Salvador. Source: TerraClimate: Monthly Climate and Climatic Water Balance for Global Terrestrial Surfaces (Runoff, derived using a one-dimensional soil water balance model)

10. In 2014, the average accumulated rain for July ended as the lowest in the last 44 years<sup>10</sup> on record, and in 2015 the average accumulated rain during the rainy season was the lowest ever recorded, reaching only 63% of what should be expected given normal historic climate conditions (Figure 4). Extended drought periods in the country, have traditionally been followed by high temperatures, hindering progress and functioning of important sectors of the economy, including agriculture, health, water

<sup>10</sup> For example, accumulated rainfall in the southeast area of the country was less than 10 mm, representing a 95% deficit from average rainfall

resources, and energy. According to the Food & Agriculture Organization of the United Nations (FAO), approximations from Central America's main the prima harvest for 2015 showed a decline of 60% in the total maize harvest, and 80% in the total beans harvest due to drier than normal weather conditions.

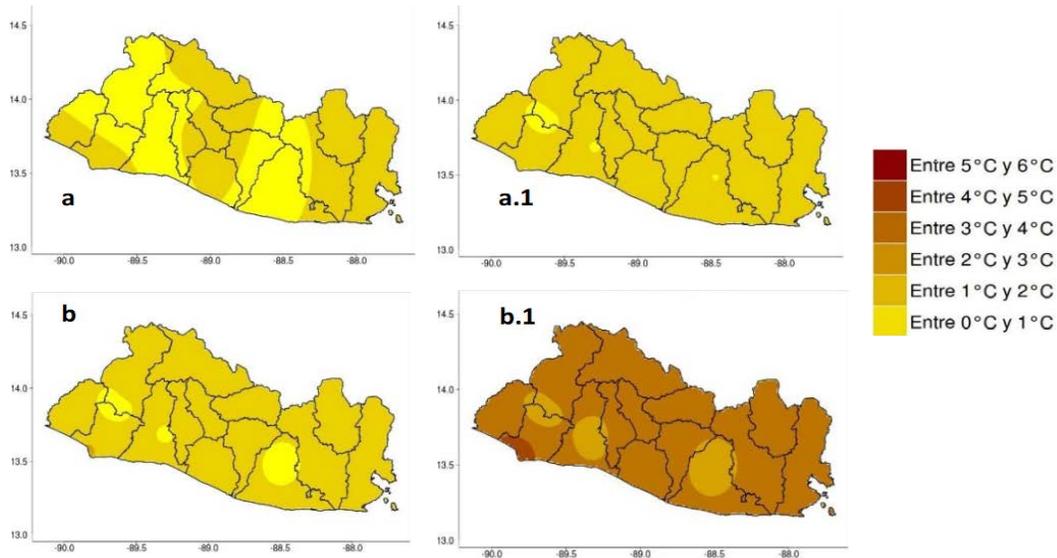


**Figure 4** – Average temperature (a) and rainfall (b) patterns in the South Ahuachapán region between 1980-2010 compared with observed rainfall and temperatures for 2015. Source: MARN, 2016.

11. Consecutive dry years, in which the dry spells last for extended periods of time, have become more frequent due to climate change. This has had wide spread effect across different sectors, consequently increasing risk and vulnerability of populations in El Salvador. Most importantly, this causes reduction on the availability of food (also affecting its access and use), due to impacts on income and basic goods availability in certain regions of the country, with serious social and economic impacts in the long-term. Furthermore, extended drought periods in the region has made landscapes more susceptible to soil erosion, floods and landslides, especially in the advent of localized rainfall in excess. Droughts in El Salvador are also known for causing fluctuations in food prices, plant pests epidemic, animal disease propagation, financial and political instability.

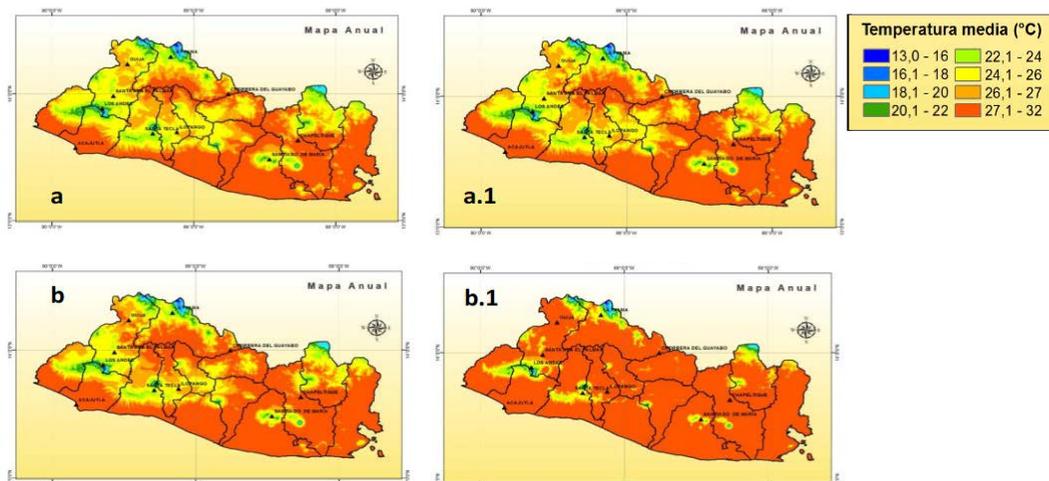
### National Climate Scenarios

12. The climate change scenarios indicate that in the coming years, El Salvador will experience more intense, and more frequent, extreme events. According to the projected scenarios, the country will consistently face reductions in precipitation and constant increases in temperature (Figure 5). The National Climate Scenarios produced by the Ministry of Environment and Natural Resources (MARN) show that over the course of this century, the average temperatures (maximum and minimum averages) will increase considerably, with the magnitude of the change being most marked for the period 2071-2100.



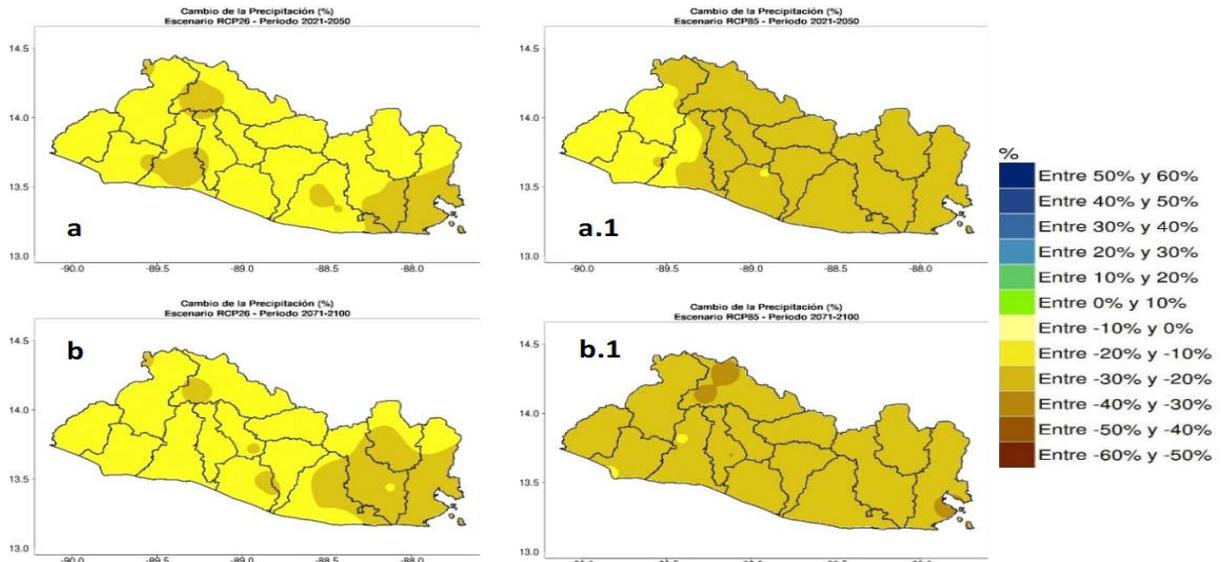
**Figure 5** – Annual Projected temperature increase. Period 2021-2050 (a) low emissions scenario, (a.1) high emissions scenario. Period 2071-2100 (b) low emissions scenario, (b.1) high emissions scenario. Source: MARN, 2017.

13. Average and minimum temperature will shift considerably between the periods 2021-2050 and 2071-2100 under all climatic scenarios. This represents changes between 1 °C and 3 °C and up to 4.5 °C towards the end of the century. These projected changes in temperature for El Salvador, are most in line with the changes projected by the IPCC. Temperature increases of such magnitude, will have direct effect on the temperature of the Pacific coast. When breaking and zooming into the time series of projections, the data shows that, in the near future (between 2021-2030 and 2031-2041), all scenarios point out to shifts between 0.7 °C and 1.5 °C, which is higher than what is observed today. The last decade in the period under consideration, presents the greatest changes in temperature with values between 1.5 °C and 2 °C in the country. These projections reveal that, in the future, 90% of the national territory will be subject to average temperature values above 27 °C (Figure 6).



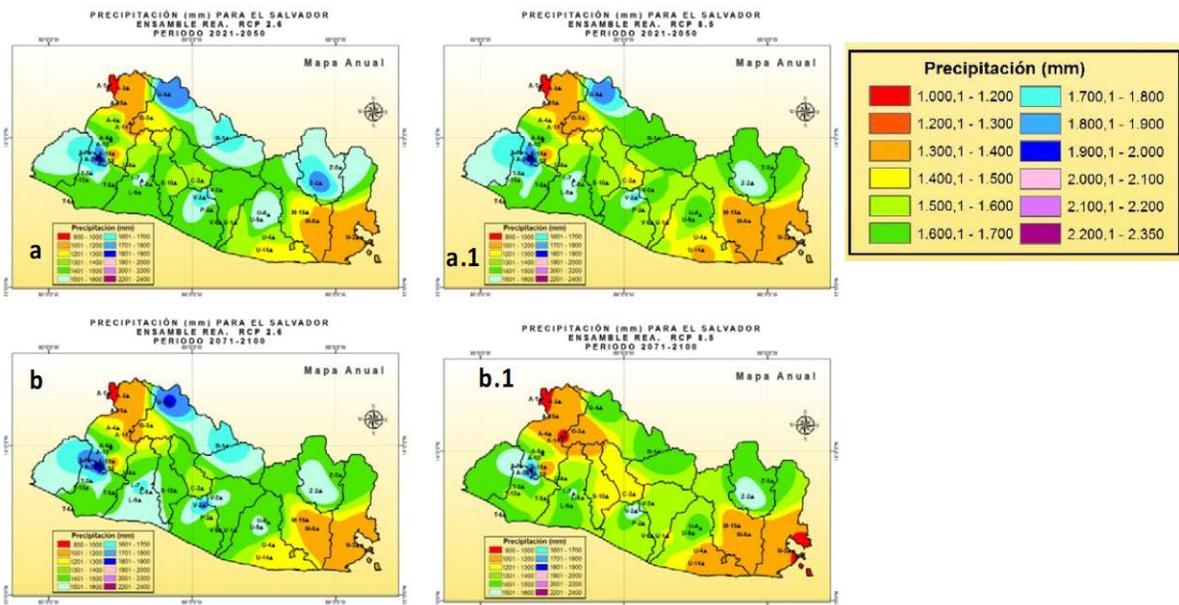
**Figure 6** – Annual Projected average temperature. Period 2021-2050 (a) low emissions scenario, (a.1) high emissions scenario. Period 2071-2100 (b) low emissions scenario, (b.1) high emissions scenario. Source: MARN, 2017.

14. All scenarios point to a decrease in precipitation between 10% to 20%, across the country between 2021-2050, with some regions being expected to see a reduction above 20% (under a high emissions scenario). This would represent a reduction of no less than 200 mm per year in precipitation. Comparably, towards 2041-2050 the magnitude of rainfall reduction will remain on the mark between 10% to 20%, similar to the previous period (Figure 7). It is worth noting that projected changes between 2031-2040 can be attributed to already ongoing climate change and variability processes in El Salvador, and that these changes are within the scope of the IPCC projections for the region.



**Figure 7** – Annual Projected precipitation reduction. Period 2021-2050 (a) low emissions scenario, (a.1) high emissions scenario. Period 2071-2100 (b) low emissions scenario, (b.1) high emissions scenario. Source: MARN, 2017.

15. The projected scenarios for the period between 2071-2100, show even more drastic changes in precipitation patterns in the country, with values ranging between 20 to 26% under the high emissions pathway. When looking at each decade in detail, for example, between 2071-2080 the changes represent a decrease of 15-25% in rainfall, under a low emissions scenario, followed by 20-25% reduction in rainfall under a high emissions scenario. By the same token, the decade of 2081-2090 will experience reductions between 20% to 30%, with even higher depletion of rainfall under the high emissions scenario. During the last decade of the 21st century between 2091-2100, the projected scenarios reveal a decrease in rainfall ranging between 20% -35% (low emissions scenario) when compared to current observed values. At the century approaches end, the scenarios reveal reduction in precipitation that are considerably more pronounced, intense and drastic if compared to the period between 2021-2050. This represents a reduction of 300 mm a year in precipitation in the country (Figure 8).



**Figure 8** – Annual Projected average precipitation. Period 2021-2050 (a) low emissions scenario, (a.1) high emissions scenario. Period 2071-2100 (b) low emissions scenario, (b.1) high emissions scenario. Source: MARN, 2017.

16. These scenarios represent a complete range of alternative futures for climate in El Salvador. Taking into account the cascading effects that may accompany the climate change scenarios, the

country's economy, society and nature, finds itself having to deal with greater risk and effective occurrence of natural disasters. Not surprisingly, as a result of current climate variability and change, in the form of higher temperatures, reduced rainfall, erratic local, regional and global climate controls, the country is already and will continue to need to manage increased social, economic and environmental pressures across vastly degraded landscapes.

### The South Ahuachapán landscape

17. The South-Ahuachapán area, located in the department of Ahuachapán, includes the municipalities of San Francisco Menendez, Jujutla, Guaymango and San Pedro Puxtla (Figure 9), covering an area of 591.73 Km<sup>2</sup>, with a population of 98,016 people from which 51% are women, and with the majority of the population (77%) residing in rural areas<sup>11</sup>.

**Table 2** – Municipalities in the South-Ahuachapán area.

Municipality	Territory (Km <sup>2</sup> )	Rural population	Urban population	Total population	Female population	Male population	Human Development Index
Guaymango	60.23	17,728	1,309	19,037	9,550	9,487	0.623
Jujutla	263.95	21,690	6,909	28,599	14,618	13,981	0.637
San Francisco Menéndez	226.13	30,211	12,396	42,607	21,838	2,0769	0.664
San Pedro Puxtla	41.42	5,886	1,887	7,773	3,893	3,880	0.677



**Figure 9** – Municipalities in the South-Ahuachapán region. Source: MARN, 2016

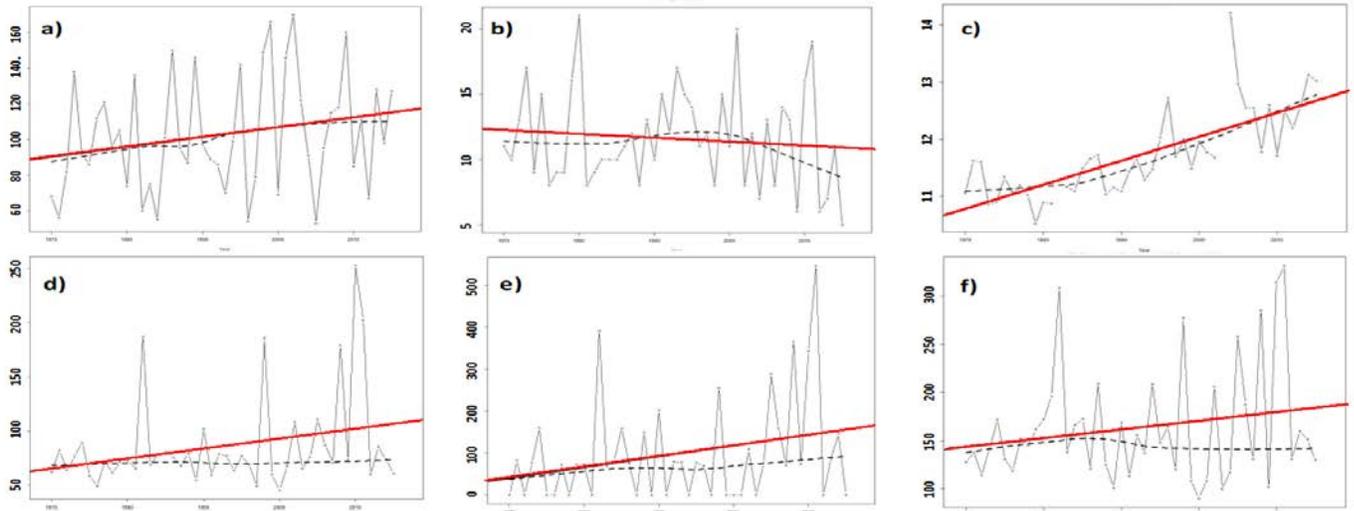
18. The MARN estimates the South-Ahuachapán as an area of high vulnerability to climate change. Considering its environmental and social characteristics at the landscape level, this part of the country finds itself highly susceptible to the destructive effects of climate variability together with lacking of necessary resources to adequately prepare, respond and recover from natural disasters. This region, contains a significant amount of the population exposed to frequent meteorological drought, while at the same time it is one of El Salvador's main regions for the production of staple food items (basic grains), as well as other cash crops (sugarcane, coffee).

19. Tree cover accounts for 68% of its total territorial area, distributed as 33% Forest, 29% Shaded coffee and 6% shrubs. Agricultural land accounts for 26% of total area, and it is used for the production of staple grains (maize and beans).

<sup>11</sup> Almanaque 262. State of human development in the municipalities of El Salvador, 2009.

20. The Landscape features strategic natural assets for the country, such as El Imposible National Park, the Apaneca-Illamatepec Biosphere Reserve, and the RAMSAR site Barra de Santiago comprising an extraordinary biological diversity of ecosystems, species and genes, and their conservation deserve special attention. The primary ecological zones are the humid subtropical forest to the south, very moist subtropical forest, and humid subtropical forest.

21. According to the climate change scenarios produced by the MARN, climate variability and change in the region will become more and more evident. This will be reflected through significant increases in average temperatures (Figure 10), erratic rainfall patterns, and increased frequency and intensity of extreme weather events.



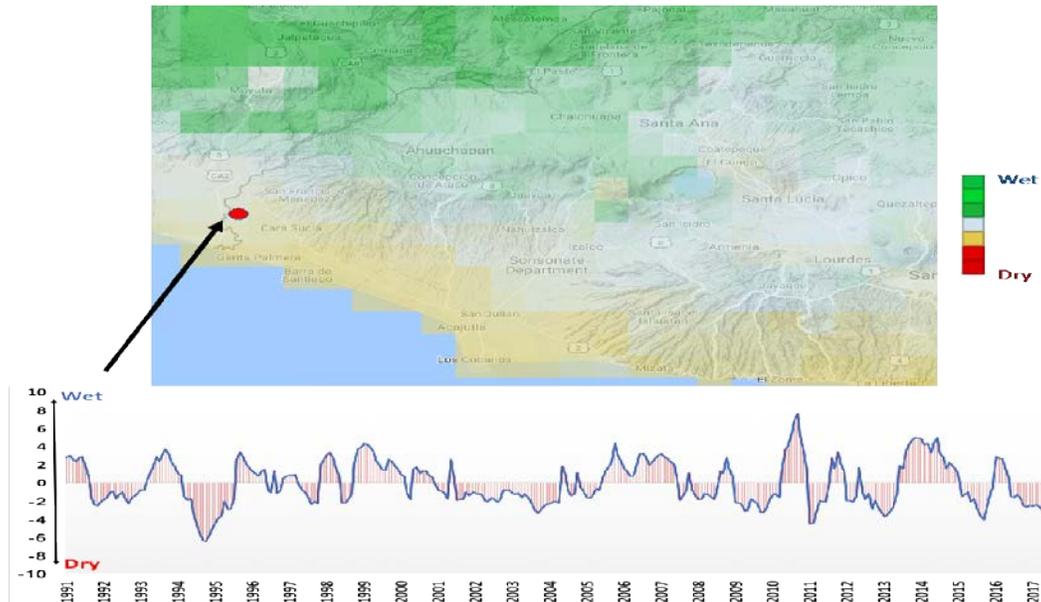
**Figure 10** – Climate indices for all weather stations located in South Ahuachapán (the dotted line represents average values, the red line represents trends in observed values): a) Consecutive dry days; b) Consecutive wet days; c) Daily temperature range; d) Yearly maximum 24-hour rainfall total (mm); e) Annual Total Precipitation for days above the 99th percentile (MM); F) Annual maximum precipitation in 5 consecutive days (mm)

22. The area has a complex hydrographic network. Of the 11 hydrographic basins that drain the territory, four of the most important: the rivers La Paz, Banderas, Lempa and Grande in Sonsonate are part of this area. There are 32 rivers in the Barra de Santiago Basin - and the Sub-basins of Cara Sucia and Culiapa. Among the main rivers of the Cara Sucia Sub-basin are El Sacramento, Huiscoyol, El Corozo, Cara Sucia, Mistepe, the Izcanal, Maishtapula, and the Aguachapio rivers. Between the main rivers of the Cuilapa Sub-basin are the Guayapa, Cuilapa, El Naranjo, El Rosario, Cubis, San Antonio, Tihuicha and El Negro rivers. However, a Hydro Analysis of this area carried out in 2007, showed that domestic demand represented 7.41% of total demand, against an irrigation demand of 92.59%, with signs of over-exploitation of the resource in the lower parts of the Cara Sucia Sub-watershed.

23. Since 1974, the Paz River has abandoned old drainages of the El Aguacate, La Danta and Río Seco channels, causing a process of desiccation and transformation of the wetlands and marshes, with an alteration of the salinity gradients, the reduction of the freshwater flows and the closure of the mangrove swamps of Garita Palmera. This leads to a high susceptibility to flooding in the southern part of the Department. The situation will be further aggravated by the climate change impacts projected to take place in what is already degraded land. Ineffective agricultural and livestock practices have led to high levels of contamination by agrochemicals, which, together with erosion, lead to a deterioration of mangroves with sedimentation and silting of channels, with loss of mangrove hydrodynamic regulation. This situation, threatens and affects artisanal and industrial fishing and local livelihoods. The lack of opportunities leads to migration and weakening of the social fabric in an already vulnerable part of the country.

24. In this region, the mangroves in the lower basin of the river belong to the mangrove ecoregion of the Pacific dry coast (Olson et al., 2001), which extend in patches along the coastal zone of Guatemala





**Figure 12** - Trajectories for the Palmer Drought Severity index for the lower Rio Paz region in San Francisco Menéndez, El Salvador. Representing relative dryness or wetness affecting water sensitive areas in South Ahuachapán. Source: University of Idaho Palmer Drought Severity Index.

27. The pressure exerted on the forest remnants of the highlands, riparian forests, secondary forests, agroforestry systems and mangroves has also increased the region’s vulnerability to climate change. The reduction of habitat, the loss of ecological connectivity and of critical ecosystem services (i.e. water provision, climate regulation) have caused a chain of processes and negative impacts that increase the vulnerability of this area in the face of more frequent events of heavy rainfall, and prolonged periods of drought. Thus, the loss of natural vegetation cover and the poor land use practices in agriculture, are leading to a continuous decrease in surface and ground water availability, excessive runoff, and a decrease in other water regulation ecosystem services, leading to a significant increase in soil erosion rates. A recent assessment of damages to the agricultural sector in Ahuachapán, pointed out that, due to an extended drought period, the average numbers observed for the harvest of corn and beans (June/July 2015) had a reduction of 94%.

28. Degrading of natural ecosystems, with wide spread effects at the landscape level (including depletion of riparian forests and grasslands) threatens the provision of a wide range of ecosystem services to local communities in the South Ahuachapán. Long and short-term effects of degradation of these ecosystems include:

- i) increased soil erosion as a result of reduced vegetation cover;
- ii) reduced infiltration of water in degraded watersheds and catchment areas, thereby resulting in reduced recharge of groundwater and an increased incidence of flooding;

29. Interventions in the are thus need to focus on helping the landscape to adapt and build resilience to the impacts of climate change, through the protection of the ecosystems and the rehabilitation and conservation of the mosaic of interdependent land uses thus enhancing the landscape’s capacity to manage extreme hydro-meteorological events as well as increased projected temperatures and erratic rainfall patterns.

30. The goods and services generated by healthy or under restoration landscapes, have the potential to mitigate these threats by providing multiple benefits to local communities in the region of South-Ahuachapán, such as the provision of natural resources (food and water) and regulatory functions, including flood mitigation, water filtration and waste decomposition.

**Landscape approach to build resilience and adapt to climate change**

31. In 2012, El Salvador developed the National Environmental Policy to help regulate, manage, protect the country’s natural resources, and reverse environmental degradation, while reducing the country’s vulnerability to climate change, which feeds directly into the country’s plans on long-term

economic growth and social progress outcomes. A key instrument of the National Environmental Policy is the National Program for the Restoration of Ecosystems and Landscapes (PREP), which is organized in three strategic areas: 1) Restoration, reforestation and inclusive conservation of critical ecosystems such as gallery forests, water recharge areas, slopes, mangroves and other forest ecosystems; 2) The restoration of degraded soils, through the forestation of agricultural systems, the adoption of resilient agroforestry systems and the development of sustainable and climate-resilient and biodiversity-friendly agriculture; 3) Synergistic development of physical infrastructure and natural infrastructure.

32. Forest landscape restoration is a key part of the country's Nationally Determined Contribution, and the main strategy to contribute to climate change adaptation, by increasing productivity of landscapes, enhancing the resilience of forest ecosystems, landscapes, agroecosystems, watersheds, and forest-dependent communities.

33. The PREP comprises immediate and strategic activities, such as the conservation of forest remnants; the restoration of forest ecosystems and agroecosystems, recovering tree coverage in critical sites, working to rehabilitate the landscape; and the maintenance and increase of tree cover in critical areas, particularly in high altitude agroecosystems, and at the watershed level (to control water supply and flow, reducing runoff, landslides and floods). The application of techniques to reduce the speed of the water flow and to increase the capacity of the water retention in the upper sections of the basins and the high zones of the mountain ranges and the protection of the plant cover, have the potential to reduce erosion and the transport of sediment as well as floods. Consequently, it enables to reduce risks associated to extreme hydro-meteorological events. Furthermore, it is expected that the reforestation of the agricultural areas will improve the soil with an increase in organic matter and moisture retention, and therefore, increasing the resistance during water shortage and drought.

#### **Identification of priority sites for EBA through restoration in South Ahuachapán**

34. Information from the PREP was used to update National Land Use Map, allowing for the identification of key the restoration sites of the country based on the following six criteria: soil conservation and food production; biodiversity and wildlife conservation; protection of ground water and adaptation to drought; adaptation to extreme events and protection against floods and storms; firewood supply and climate regulation.

35. A particular focus was provided to key agroecosystems sites (these account for 60% of the national territory) with the potential land use/cover transitions<sup>12</sup> for restoration also being identified taking into account the different current uses of the soil to allow the recovery of prized ecosystems, through the restoration of their relevant environmental goods and services for adaptation. The potential areas for each transition type comprise a total of 1,001,405 hectares comprising eleven proposed transitions pointing to the high potential for restoration areas in South Ahuachapán.

36. The analysis by MARN has allowed the project proposal to identify the municipality of San Francisco Menendez located in the South Landscape of Ahuachapán, as the target intervention area for restoration investments. The municipality has a territory of 226.13 km<sup>2</sup> and a total population of 42,062 of which 30,211 reside in rural areas. The identification of the Municipality of San Francisco Menendez as the area of intervention, was based on an exhaustive analysis of available time series of satellite remote sensing data, together with data and information collected by MARN *in-situ*.<sup>13</sup>

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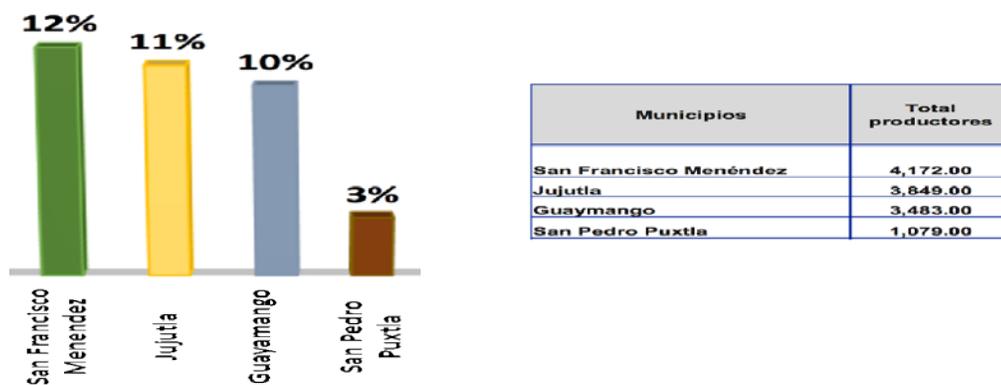
<sup>12</sup> Defined as the non-linear land use change process associated with societal and biophysical system changes.

<sup>13</sup> The analysis was conducted using Google Earth Engine, allowing the production of wall-to-wall spatially explicit information at multiple spatial scales. The analysis included Climate models generated by both long-term climate predictions and historical interpolations of surface variables, including historical reanalysis data from NCEP/NCAR, gridded meteorological datasets such as the NLDAS-2, and GridMET, and climate model outputs like the University of Idaho MACAv2-METDATA and the NASA Earth Exchange's Downscaled Climate Projections. The prioritization also included the analysis of spatially-explicit land surface variables over time, such as: Evapotranspiration/Latent Heat Flux product (8-day composite product produced at 500 meter pixel resolution), providing information on the hydrologic cycle, which has direct and significant influence on agriculture cycles in the region, as well as the amount of solar radiation, atmospheric vapor pressure, temperature, wind, and soil moisture available. The prioritization also included analysis of salinity anomalies using the Hybrid Coordinate Ocean Model, Water Temperature and Salinity (HYCOM) (Revealing that salinity has not been decreasing as result of local meteorological processes

37. To further characterize the imbalances observed in the region, coming as consequence of intense rainfall and longer dry periods, the prioritization exercise used data from the Monthly Climate and Climatic Water Balance for Global Terrestrial Surfaces Dataset (TerraClimate) to better understand the runoff patterns in San Francisco Menendez.<sup>14</sup> The analysis revealed an upward trend in surface runoff in San Francisco Menendez, starting in 2006 and progressing steadily, affecting negatively agricultural activities and exacerbating the already damaging effects of extended periods of drought, scarce and localized rainfall patterns in the intervention area. The data and analysis revealed that the lower Rio Paz presents a remarkably consistent pattern of low precipitation and high temperatures over time. Such characteristics have been followed by an increase in the number of extreme weather events (such as heavy rainfall and droughts), leading to below average soil moisture, increased surface runoff, and soil loss. This has been pointed out by an increasing number of recent reports by MARN and international agencies such as USAID, FAO, GIZ, which have identified the Municipality of San Francisco Menendez (entirely located in the Central America Dry Corridor) as extremely susceptible to the Effects of CC. The impacts pointed out by MARN and international organizations working in the area, have been immediately felt in the form of changes in water flow patterns (in the Lower Rio Paz), higher than normal temperatures, erratic rainfall, and low fresh water input into the ocean. This has created an imbalance that will only be exacerbated by CC, affecting agriculture, the natural environment, as well as local livelihoods in the project intervention areas.

38. In San Francisco Menendez, the land under exploitation is dominated by cultivation of crops (46%), followed by seasonal grasslands (30%) and permanent grasslands (15%). The local development plan for the municipality has identified 4,569 Ha of critical ecosystems for restoration by 2030 of which 1,569Ha are agroforestry systems, 2,000 Ha tropical forests and 1,000 Ha being mangrove systems.

39. According to the 2007 Census in the agriculture and livestock sector, the land under exploitation is mainly owned by producers (75%) while 18% of land is leased (Figure 13). There are 80 cooperatives of small producers present in San Francisco Menendez, from those 16 are women led cooperatives.



**Figure 13** – Total of local agricultural producers in the direct area of intervention (San Francisco Menendez) and indirect intervention area in relation to total producers in South Ahuachapán region. SOURCE: Ministry of Economy, General Directorate of Statistics and Census<sup>15</sup>.

over the past several years). The analysis also included Long-Term drought Severity estimations using the Palmer Drought Severity Index (PDSI), which has been effective in determining long-term drought in the intervention area. The PDSI data and analysis considers surface air temperature and a physical water balance models, taking into account the observed effects of increasingly warm temperatures, and high evapotranspiration, leading to systemic imbalances affecting local hydrological cycles (refer back to Figure 13).

<sup>14</sup> This dataset and analysis considers runoff as the excess of liquid water supply (precipitation) used by monthly Evapotranspiration and soil moisture recharge and is derived using a one-dimensional soil water balance model and it correlates well to measured streamflow from a number of watersheds globally.

<sup>15</sup> Ministry of Economy; General Directorate of Statistics and Census –DIGESTyC; El Salvador: 2014; Estimates and Trends of Municipal Population 2005-2025

**Table 3 – Area of land under exploitation by land use in San Francisco Menendez. 2007 Census<sup>16</sup>.**

<i>Type of Land Use</i>	<i>Hectares</i>
<i>Cultivation of crops</i>	4,721.38
<i>Permanent grasslands</i>	1,507.49
<i>Seasonal grasslands</i>	3,064.78
<i>Fallow land</i>	362.92
<i>Forests</i>	259.76
<i>Not appropriate for agriculture</i>	268.18
<b>Total</b>	<b>10,361.90</b>

40. San Francisco Menendez municipality is part of the broader South Ahuachapán landscape that includes the municipalities of Jujutla, Guayamango and San Pedro Puxtla. These municipalities are administratively grouped together through the Association of Municipalities of Microregión Sur with the objective of establishing synergies for their development and for environmental management through concerted actions. Actions along these municipalities is also strategic as these also share access to the same aquifers (Figure 12) thus linking them, at a landscape, administrative and hydrological level. Population for this larger region is 98,016 (49,899 women) of which 75,515 people reside in rural areas.

### **Proposed Adaptation Solution and Barriers**

41. An adaptation solution for San Francisco Menendez and the greater South Ahuachapán area needs to address not only the climate impacts as identified above (higher temperatures, droughts and flash floods) but also needs to address the underlying barriers that have increased the vulnerability and hindered the capacity of communities and ecosystems to manage impacts and ensure climate resiliency.

42. These include an unsustainable management of ecosystems that have generated a diminished capacity at a landscape level to manage drought, soil erosion and flash floods that will become more recurrent due to climate change; lack of capacity of producers to identify alternative climate resilient productive options; lack of information and knowledge on climate change as it will impact the region and a lack of governance capacity in identifying and implementing appropriate adaptation measures to manage climate change in an inclusive and coordinated manner.

#### *Unsustainable Landscape Management*

43. Land use changes from agriculture become a critical issue in diminishing the ability of the landscape to manage climate change as loss of forest cover reduces the capacity to trap moisture and to reduce the threat from flash flooding. Unsustainable land use practices in conventional agriculture such as excessive tillage, burning of stubble (in the case of sugar cane harvesting), excessive use of agrochemicals, such as pesticides, herbicides, and chemical fertilizers, and overgrazing have further impacted the capacity of the landscape to manage the effects of both drought and flooding and have a direct impact in soil erosion.

44. In the case of South Ahuachapán and more specifically in San Francisco Menendez, unsustainable land management becomes a critical issue due to the direct interdependence of ecosystems within the landscape (highland forest systems, riparian forests, secondary forests, agroforestry systems and mangroves) that is made more acute due to the natural topography of the region which has altitudinal ranges from 0 to 200m above sea level coupled with long and steep slopes. Thus interventions within middle and higher altitudes (where traditional agriculture takes place) have an immediate impact to ecosystems at a lower altitude.

45. Unsustainable land management in this case is common and is a direct result of the competition that exists from agricultural and livestock producers with the need to increase productivity from a landscape that is already suffering from the negative impacts of climate change. This is often at odds

<sup>16</sup> The 2007 includes surface measurement in manzanas (mz), which was converted to hectares considering 1mz=0.70ha

with users who feel the need to conserve valuable ecosystem services through restoration interventions as a means to protect their lives and livelihoods in downstream areas (fisheries for example).

46. Illegal interventions within the main surface water sources (small illegal dams) such as the rivers have also interrupted the natural flow of water. Often time these interventions are made by producers who feel the need to divert water flow to benefit their production and often result in the degradation of valuable ecosystems and of natural water flow (particularly in the flow of sweet water to the mangrove areas). These interventions also increase the vulnerability of communities to both drought (interrupting flow to water sheds) and flooding, particularly in lower areas within the topography.

47. An adaptation solution needs to address the competition that exists within the landscape between land users and present a win-win solution for sustainable land management. This includes developing the information products and alternatives that link the value of critical ecosystems as a means to address climate change and generate the mechanisms for their restoration and protection within a productive landscape reality. To ensure their sustainability, solutions need to be framed within a wider community governance mechanism for landscape management that recognizes the mosaic of land uses in the area.

*Lack of capacity of producers to identify alternative climate resilient productive options*

48. As the impact of climate change has become more evident, communities have begun to see its direct impact in their productive capacities. San Francisco Menendez relies mainly on agricultural and livestock production with a large amount of small agricultural holders producing staple grains. Flooding, drought and general climate vulnerability have negatively impacted yields and in some cases resulted in total loss of production.

49. Climate projections for the area demonstrate that productive options that were available -such as coffee production at mid altitudes- will no longer be feasible as temperatures become more elevated and water scarcer. San Francisco Menendez usually relied on 2 annual planting seasons however as climate change has progressed, producers can now only realistically rely on one. Lack of regional climate information in the form of agricultural hydromet products and general understanding of climate scenarios have contributed to a general feeling of uncertainty amongst producers on livelihood alternatives who feel that their livelihoods are gradually disappearing.

50. Furthermore, small scale and subsistence level producers often rely on agricultural extension officers from MAG to provide them with the inputs, including seeds and fertilizers, required for basic agricultural production. These are provided in the form of agricultural packets and provide seeds for corn or beans which are prevalent in the region. These agricultural packets are normally provided twice a year at a national level, however in the areas within the Dry Corridor such as San Francisco Menendez these are now only provided once a year (during the second planting period) as the first planting period (primera siembra) has been lost due to climate change. Resiliency to climate change has not been considered as an important aspect in modifying seed varieties or techniques provided and thus provide little options for small scale and subsistence producers in San Francisco Mendez to adapt planting practices. The availability of seed banks with seed varieties that are appropriate for the region and that factor in resiliency to elevated temperatures, drought and floods will provide options for these producers.

51. Development and conservation organizations have begun to innovate in the region through pilot projects to implement agroforestry systems and new crops (such as cacao) at an individual farm level. However, lessons learned from these interventions have yet to be disseminated beyond these organizations and development circles. In addition, little effort is made to link these systems to market chains thus missing an opportunity to generate economic incentives for wider scale replication. Information derived from these pilots is also not widely disseminated nor packaged for the uptake and large-scale implementation by agricultural producers or agricultural service providers. Often time agricultural extension officers, producer cooperatives and agricultural authorities are not considered as active stakeholders when implementing these pilots and thus the information is not systemized for their use. This has resulted in a general lack of knowledge amongst producer circles on how to adapt existing livelihoods and means of production to factor in new climate realities. Hence adaptation solutions need to be systematized in a manner that is appropriate for productive stakeholders to understand and

implement. It also needs to have information regarding market potential to ensure that the correct incentives exist for their wide scale implementation to correctly ensure that these options provide a real alternative for resilient livelihoods in the region.

*Lack of information and knowledge on climate change as it will impact the region*

52. While communities within South Ahuachapán have been experiencing the impact of climate change, this has not necessarily translated into an actual knowledge of climate change and climate change projections in the region. This lack of knowledge extends to local leaders and land users who are unaware of how to address these impacts in a manner that actually generates long term resiliency. This generates an important barrier in providing an entry point on implementing adaptation strategies.

53. El Salvador has a National Environmental Monitoring System (Observatorio Ambiental) that provides NHMS services at a national level, including a national meteorological drought alert system that provides alerts via various channels including SMS messaging, however a lack of funds and equipment have limited its capacity to provide the downscaled climate information that is needed by local populations and much less package it into relevant climate information products that can provide a means for adaptive planning. Chief amongst these include information on how climate change will impact access to natural resources such as water and how the region as a whole needs to respond for correct water management.

54. Lack of this information has generated increased uncertainty that has at time resulted in conflict among stakeholders within the landscape- particularly when it comes to illegal interventions in surface water sources (artisanal dams) made to favor certain crops or areas thus undermining sustainable water management at a landscape level. In addition, little information exists on the common aquifer for the region and how it interacts with the existing surface water system. Understanding the link between hydrological systems in the region and layering in the impact of projected precipitation patterns and evapotranspiration rates are a key input in effectively understanding how climate change will impact the region and will in turn provide a key tool for sustainable land management that is able to translate these actions into effective adaptation strategies. This approach has currently been lacking in restoration investments in the region.

55. By enhancing the capacity of national monitoring services to monitor climate change and its impact on natural resources, these will be able to deliver important tools to the community regarding the changes occurring in the region, and also providing them with information on how to manage these through EBA interventions as well as promoting basic adaptive planning.

*Lack of governance capacity in identifying and implementing appropriate adaptation measures to manage climate change*

56. Conflicting actions by land users have limited the impact of restoration and environmental management within the region as the needs to conserve have often come into conflict with the needs to produce. National, regional and local organizations active within the territory are often fragmented with interventions in the area responding to diverse environmental and productive needs without necessarily talking to each other and at often times working at cross purposes.

57. Weak governance has been identified by stakeholders as an important barrier in reducing the region's vulnerability to climate change as few mechanisms are available to generate the coordinated and concerted actions that are required for a general adaptation strategy at a local level that address the needs of all land users. While progress has been made through the Sustainable Local Development Plans developed by MARN (one exists for San Francisco Menendez), these have yet to incorporate climate change as a key variable. In addition, agreements based on these are led by MARN and not incorporated within the general mandate of the municipalities, these instead are considered another actor and hence not made directly responsible for its implementation.

58. Municipal authorities have in fact a mandate to regulate land planning through local development plans and often time provide support for local enforcement in ensuring that national environmental laws are being upheld. This is a key aspect for large scale EBA. However, the lack of capacity in municipal governments to understand technical information in terms of landscape management often times limits

buy in by local authorities that prize short term economic investment and productive potential over long term adaptive capacities, thus undermining the sustainability of local environmental investments.

59. The capacity gap to manage technical information to change behavior is often a result of short political lifespans of municipal authorities (3 years) and a failure by development actors in the region to incorporate local authorities in disseminating best practices from landscape intervention and in generating in them the required capacity needed for their assimilation and potential upscale. This situation coupled with a lack of regional information regarding climate change limits the potential of municipal authorities to perform as key actors in leading adaptation planning.

60. In addition, local environmental and development organizations currently active in the territory have yet to identify their role in providing support to local governance mechanisms to ensure synergies exist for long term climate resiliency and in the implementation of concrete adaptive actions to ensure a more efficient use of resources directed to the region. This includes streamlining within their interventions climate change projections and understanding how environmental management solutions need to address the needs for resiliency as a part of a larger measure to reduce vulnerability.

61. An adaptation solution for the region needs to build upon and enhance existing governance mechanisms while generating in municipal authorities the capacities to manage climate change impact in a participatory manner that prioritizes adaptation actions and investments and streamlines these within local adaptation plans and generates clear lines of action for all land users. It also needs to build upon existing capacities within local organizations in mobilizing communities, donors and stakeholders to support the implementation of investments for adaptation within a larger framework of sustainability and long term resiliency.

#### **Project / Programme Objectives:**

62. The proposed project has the main objective of reducing the vulnerability of communities and productive ecosystems in the Municipality of San Francisco Menendez to drought risk, soil erosion, and flash floods due to climate change and climate variability as described above. The project will meet this objective by addressing the main barriers that have been identified as limiting the capacity of ecosystems and rural communities in San Francisco Menendez to adapt to climate change.

63. The project will meet this objective through the following 4 outputs:

- i) Restoring 3,865Ha of forest landscape within San Francisco Menendez, through a landscape based ecosystem intervention that will focus on the restoration of critical landscapes and enhance its capacity to manage droughts, soil erosion and flash floods. These include restoration in the upper part of the mountain ranges and high and middle portions of the watersheds that are crucial to regulating water flows - maintaining the water infiltration capacity and reducing runoff - and avoid superior damages related to landslides and floods.
- ii) Promoting and implementing climate resilient and economically viable productive alternatives in the region that address the economic vulnerability being faced in the region as traditional agricultural systems have become less productive due to climate change. This includes identifying climate resilient seeds, implementing and promoting adaptive productive techniques, systemizing best practices and generating the information products needed for regional upscale, access to financial resources and inserting them within high value markets.
- iii) Generating climate and hydrological information products in the region to identify and monitor the impact of climate change in the landscape and also the effectiveness of ecosystem based interventions in their management to improve local and national responses.
- iv) Enhancing local capacity to take concerted action in addressing climate change impact, prioritizing adaptation interventions and mobilizing the financing necessary for their implementation.

64. The project will integrate forest landscape restoration as a climate change adaptation strategy targeted towards increasing forest cover, improving the hydrological cycle, increasing the amount of available water, and regulating surface and groundwater flows, while maintaining and improving water

supply and quality. The project landscape approach will ensure that land degradation is reduced (or reversed) and that productivity is maintained and made resilient to climate change impact, thus contributing to better food security and community resilience. By ensuring and enabling institutional and governance environment, the project will generate coordinated and informed actors with the capacity to address appropriate adaptation measures in the medium and long term thus resulting in a genuine local resilience to climate change.

## Project / Programme Components and Financing:

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
<p>1. Ecosystem-based adaptation for enhanced resilience at a territorial level</p>	<p><b>Output 1.1.</b> Landscape planning through community restoration plans for ecosystem based adaptation and landscape management (USD 503,156.37)</p> <p><b>Output 1.2.</b> Forest landscape restoration is implemented to meet climate adaptation needs and improve ecosystem services (USD 528,193.19)</p> <p><b>Output 1.3.</b> Promotion of Sustainable and Resilient Agriculture to Climate Change in critical ecosystems (USD 3,264,104.99)</p> <p><b>Output 1.4.</b> Integrated Watershed Management within Community Restoration Plans (USD 286,340.37)</p>	<p>Critical ecosystem services in forest landscapes are restored and enhanced to better manage climate change impacts.</p>	<p><b>USD 4,474,068.36</b></p>
<p>2. Alternative and adapted livelihoods identified and made viable for resilient livelihoods</p>	<p><b>Output 2.1.</b> Identification and promotion of climate resilient products to enhance rural livelihoods (USD 703,800)</p> <p><b>Output 2.2.</b> Adapted livelihoods introduced to new high value markets to generate economic alternatives in the region (USD 382,500)</p>	<p>Local livelihood diversification and income generation models are implemented building local resilience to climate change.</p>	<p><b>USD 1,086,300</b></p>
<p>3. Regional Climate and Hydrological Monitoring for Enhanced Adaptation Planning</p>	<p><b>Output 3.1</b> Generated the capacity and knowledge to monitor EBA and restoration interventions in South Ahuachapán (USD 550,650)</p> <p><b>Output 3.2.</b> Improved production and utilization of hydrological and climate information applied to decision-making by stakeholders and local development agents (USD 326,000)</p>	<p>Enhanced capacity to generate relevant climate and hydrological information to enable climate risk informed management of natural resources in South Ahuachapán.</p>	<p><b>USD 876,650</b></p>

4. Strengthening of inter-institutional coordination and local governance for landscape management in the face of climate variability and change	<p><b>Output 4.1.</b> Established technical capacities in municipal governance to integrate information and promote concerted action for adaptation (USD 441,900)</p> <p><b>Output 4.2.</b> Local adaptation plans designed and included in the municipality's territorial planning (USD 117,000)</p> <p><b>Output 4.3.</b> Enhanced capacities in local organizations to articulate actions and mobilize financing for Ecosystem-based Adaptation (USD 200,000)</p>	Local institutions and governance mechanisms with enhanced capacities to implement adaptation measures and manage climate change.	<b>USD 758,900</b>
6. Project/Programme Execution cost			623,900
7. Total Project/Programme Cost			7,819,818.36
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			664,684.56
<b>Amount of Financing Requested</b>			<b>8,484,502.92</b>

### Projected Calendar:

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

Milestones	Expected Dates
Start of Project/Programme Implementation	2020
Mid-term Review (if planned)	2022
Project/Programme Closing	2024
Terminal Evaluation	2024

## PART II: PROJECT / PROGRAMME JUSTIFICATION

- A.** Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

### Component 1. Ecosystem-based adaptation for enhanced resilience at a territorial level

65. Component 1 will focus on ecosystem management activities aimed at increasing the resilience and reducing the vulnerability of people and the environment to climate change in San Francisco Menendez. This component feeds into the MARN's strategic plan to restore critical ecosystems, and re-establish ecological integrity through agroforestry, as well as through soil management and the conservation of water sources (MARN, 2016). These will be looked as measures to ensure that the landscape is made resilient to the existing and projected climate pressures arising from sudden storms and extended dry periods.

66. Component 1 will encompass the following concrete outputs: a) The establishment of 65 community restoration plans as a community governance mechanism to plan and manage the restoration actions along 3,865 ha of land under a landscape approach b) Protection and restoration of critical ecosystems (284.52 Ha of riparian forests and 141 Ha of mangrove forest)

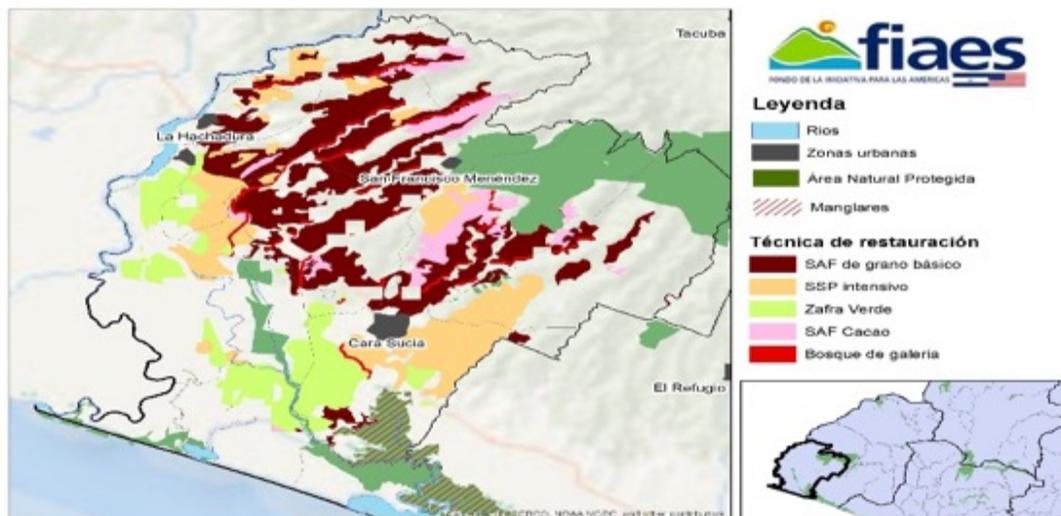
to meet climate adaptation needs and improve ecosystem services supply for landscape resilience; c) Implementing Sustainable and Resilient Agriculture practices to through the implementation of 2,708 Ha of agroforestry for basic grains, 664 Ha of silvo pastoral systems, and 67 Ha of Agroforestry systems for coffee and cacao in transition areas within the target restoration areas; d) Promoting Integrated Water Management (better protection and management of wetlands and aquifers in South Ahuachapán) in target restoration areas.

67. The proposed restoration activities will seek to improve livelihoods, increase food and water provision, and strengthen territorial development. The restoration actions to take place under this output will restore natural landscapes and will look into how alternative land use/cover transitions can help reverse land degradation in the intervention areas, through the introduction of agro and silvopastoral systems and through the introduction of soil and water conservation measures including terracing. The implementation of this component will improve the resilience of more than 30,000 people in San Francisco Menéndez, located in rural areas of the municipality and will result in the restoration and sustainable land management of 3,865 (three thousand eight hundred sixty-five) ha that will be organized through 65 community restoration planning mechanisms.

68. Actions under this component will be led by the Ministry of Environment and Natural Resources (MARN) and FIAES that will act as a Responsible Party with the support of regional and local Civil Society Organizations, such UNES, FUNDESYRAM, CRS, IMU, extension institutions such as CENTA, Community Development Associations (ADESCOS for its name in Spanish), and other local organizations and associations such as the Comité de la Microcuenca El Aguacate.

**Output 1.1 Landscape planning through community restoration plans for ecosystem based adaptation and landscape management.....USD 503,156.37**

69. Building on the Local Restoration and Sustainable Environmental Development Plan for El Imposible-Barra de Santiago (PDLS), the project will support the development of community agreed restoration plans. Community restoration plans will define prioritized areas for restoration interventions based on the PDLS (Figure 14) and include specific activities for this. These will be defined and agreed with local communities to ensure proper landscape management.



**Figure 14:** Target Areas of Restoration per Intervention (agro forestry (burgundy), silvo pastoral (yellow), riparian forest (red), mangrove (stripped), cacao/coffee (pink))

70. FIAES under guidance of MARN will work with communities and local associations (such as ADESCOS, IMU, UNES and FUNDESYRAM) to develop landscape restoration plans. They will in turn work with land owners and land users within this planning process establishing with key areas for restoration and areas for sustainable productive use (agroforestry and silvo pastoral systems). The community restoration plans will designate and set aside specific restoration areas for different purposes, as well as areas for productive managements in transition areas and

establish the rules of engagement. These will be framed in formal community agreements with support of and guidance of MARN, FIAES and local organizations. Community restoration plans will serve as a community agreement to landscape management and EBA implementation of 3,865 ha of target rural landscape. This area will be governed through 65 community restoration plans.

71. Restoration plans will result in enhancing landscape management at a territorial level and allow for the establishment of community agreed guidelines for EBA and sustainable landscape management, hence favouring a participatory governance mechanism to the restoration activities.

72. Activities under this output include:

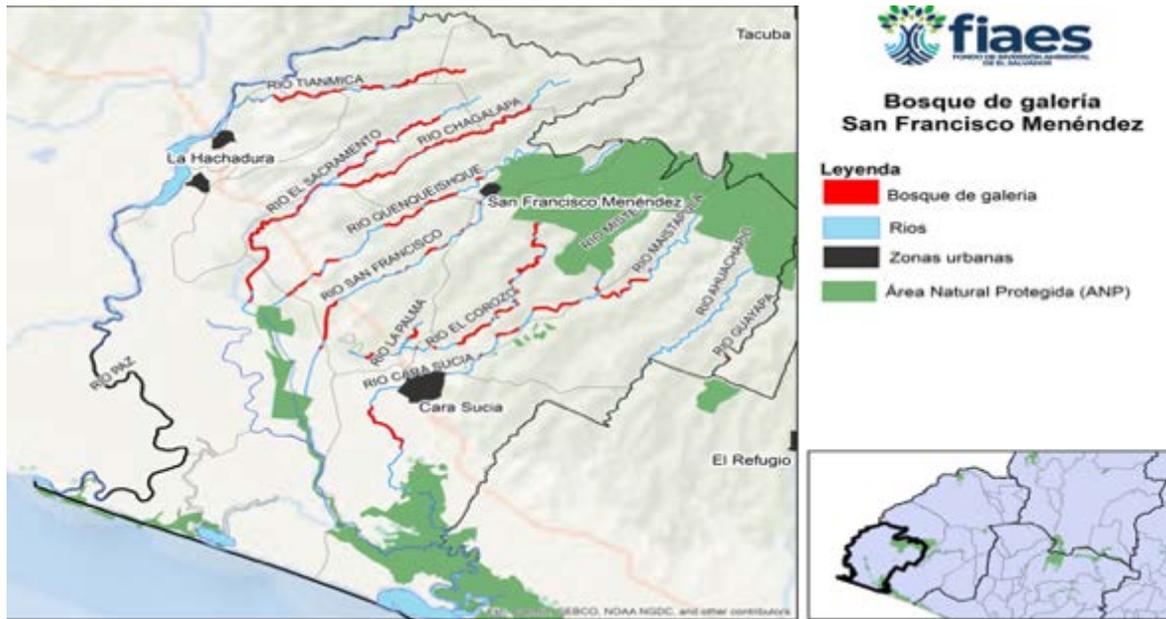
- i. Developing 65 community restoration plans that will allow a landscape management at a territorial level, including identification of: i) priority areas for the restoration of critical forest ecosystems and watersheds; and ii) priority areas for the restoration of productive landscapes. These will be based on the PDLS. Community restoration plans will be developed through a call for proposals launched by MARN and FIAES targeted to local associations (ADESCOS, IMU, UNES and FUNDESYRAM) that will work closely with communities in the planning process. Local organizations will work directly with communities to develop these plans for territorial management including areas set aside for restoration, areas for productive sustainable development and water management interventions. These plans will include a characterization of the land use in the specific intervention areas, identification of restoration areas including riparian forests, river banks, hillsides, forests agroforestry systems and mangroves, description of the restoration activities to be carried out, methodology for interventions within the area with timelines and inputs, costs for implementation, operations and maintenance cost calculation, governance and management arrangements, monitoring agreements, and a territorial and stakeholder characterization (survey) of the area under implementation.
- ii. Managing the implementation of 65 community restoration plans, including establishing community agreed upon restoration and landscape management guidelines, these will be aligned with national restoration guidelines and best practices and will be reviewed by MARN. This will be led by local organizations with oversight from FIAES.
- iii. Packaging lessons learned from the development and implementation of community restoration plans including the identification of key actions for water management and for potential ecosystem-based adaptation initiatives. This will be led by local organizations with the support of FIAES, who will promote knowledge management events and products.
- iv. Mapping interventions created within the community restoration plans, to identify areas that have been prioritized for restoration and for productive management
- v. Develop workshops and local assessments for the establishment of a landscape management plan for ecosystem based adaptation planning, taking into account the systematization of lessons learned and the mapping of community restoration plans.

**Output 1.2 Critical ecosystems are restored to meet climate adaptation needs and improve ecosystem services supply ..... USD 528,193.19**

73. This output will focus on the protection of critical riparian and mangrove forests through interventions in 141 Ha of mangrove and 284.52 Ha of riparian forests located within San Francisco Mendez. Intervention areas will be defined as prioritized within the PDLS and then further defined through the community restoration plans (See Figures 15-16 for target areas).

74. Communities and local associations (i.e. ADESCOS, IMU, UNES and FUNDESYRAM), selected through a call of proposal, will implement restoration activities as agreed within community restoration plans to allow for landscape management at a territorial level. Restoration actions will follow MARN technical guidelines for correct restoration implementation and to ensure correct regional characterization. Restoration activities will be designed to re-establish the





**Figure 16:** Target Areas for Riparian Forest Restoration (red)

**Output 1.3 Promotion of Sustainable and Resilient Agriculture to Climate Change in critical ecosystems.....USD 3,264,104.99**

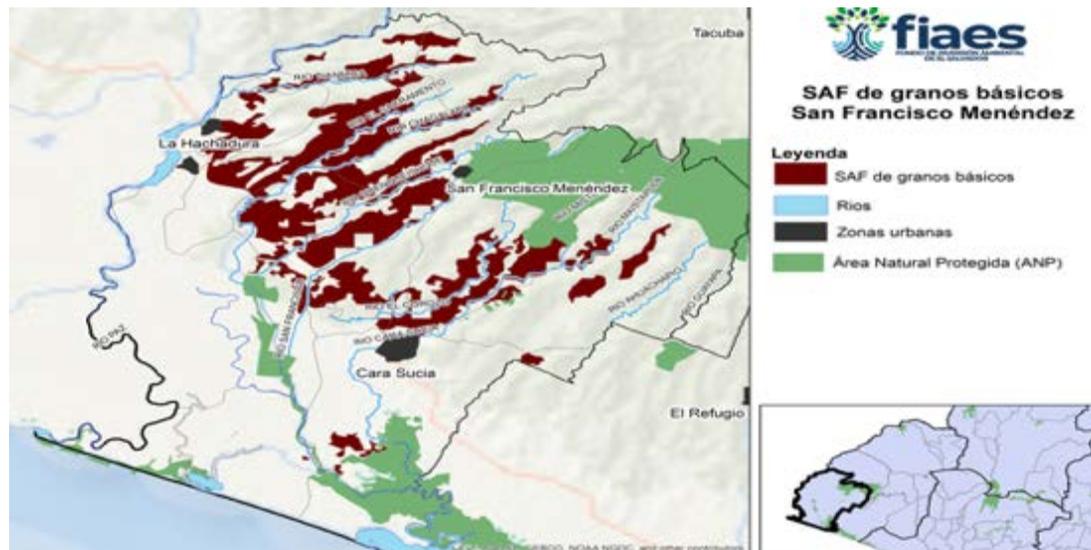
76. One of the main challenges identified in the project intervention area relates to the promotion of better landscape management while serving local agriculture as well as the other inter-related needs from the landscape. Hence, this output will look to bring the target restoration areas currently used for production of staple grains (maize and beans) and pasture, under agroforestry systems and silvopastoral systems respectively as defined within the agreed upon community restoration plans. These integrated systems will build local resilience to climate change by avoiding land degradation, improving hydrology, habitat, water quality, reduce erosion and sedimentation rates. These techniques rely on soil restoration techniques such as contour barriers to reduce sediment loss and hill side erosion from run off in the case of sudden extreme rainfall while favouring water retention.

77. Through the characterization of the community restoration plans, key areas for productive development will be identified by the community and using existing land use mapping as included in the PREP and the PDLs ensuring that productive restoration in these areas support the sustainable management of the landscape. The result of the output will be the implementation of 2,708Ha of agroforestry for basic grains, 664Ha of silvo pastoral systems, and 67Ha of Agroforestry systems for coffee and cacao in key transition areas. Implementation of these systems will be coordinated by FIAES who will work with communities and local associations and producers (such as ADESCOS, IMU, UNES and FUNDESYRAM) for their implementation. MARN experts will provide support in guiding all restoration actions and techniques particularly in the introduction of plant species for restoration.

78. Activities to be supported under this output include:

- i. Identifying target areas for agroforestry (Figure 18 and 20) and silvo pastoral systems (Figure 19) based on strategic transition areas for restoration identified through the PREP and that have been prioritized in the San Francisco Mendez municipality through PDLs. These will be further defined through the community restoration plans developed by FIAES with the communities based on impact on natural hydrology and impact on lower stream ecosystems such as mangroves. Workshops and local assessments will be held leading to the establishment of a landscape management plan for areas under productive restoration to promote sustainable agricultural practices (mulching, use of organic fertilizers, etc). This will ensure that local agreements are put in place so that sustainable and climate productive management is established within the restoration areas in manner that is acceptable to the land users and owners.

- ii. Technical assistance and support will be provided by FIAES and local organizations to producers within the community restoration plans to implement relevant agroforestry and silvopastoral systems in the targeted transition areas. Assistance will include the introduction of these restoration compatible productive systems as well as providing the inputs needed for their implementation. This will include
  - a. In the case of agroforestry systems for basic grains, implementation will include the introduction of live fences and barriers, fruit trees, timber, and forage scattered in the growing area. These will look to combine and associate native tree species (forestry, fodder, and/or fruit), combined with cattle and/or staple crops have the potential to mitigate the effects of extended periods of below average rainfall values, as well as flooding events. Implementation techniques will follow three steps 1) clearing the areas where forest systems will be introduced through no burn techniques using the stubble to ensure that nutrients are released in the soil and to provide moisture cover; 2) establishing live fencing to protect the growing area and contour barriers to optimize water infiltration and loss of sediment in the case of extreme weather. Species for live fencing includes pito coral tree, ujushte, carreto, caulote, morro and nance these will be set up within a meter distance of each other connected by wiring. Contour barriers will then be established in contour lines with differentiated distances according to the slope of the cultivation plot. Ditches will be established below the contour line with alleys being formed with the earth excavated from the trench thus establishing a living barrier in the upper part of the ditch. Species for live contour barriers includes pigeon pea tree (gandul), zacate fodder, yucca elephantipes), devil pepper (rauolfia tetraphylla) 3) In the lower part of the ditches fruit trees will be introduced in a 12-meter arrangement between each tree. For this systems 35 trees per ha will be introduced. Due to the slope of the terrain, 2 meter individual terraces around each tree will be built. The introduction of fruit trees (4 species per system) will take into account local ecosystems as well as resiliency to climate change conditions in the area. Feasible options include papaya, native plantain, mango, avocado, zapote, citrics, guayaba, guanabana. Introduction of all vegetation will follow a careful study and will be guided by experts from MARN.



**Figure 17** Target Areas Agroforestry Basic Grains (brown)

- b. Silvo pastoral systems will be established in areas where extensive cattle herding is currently taking place (Figure 18). The implementation of this system will comprise 5 main steps: 1) Establishing live stakes for each meter to protect the area of intervention; 2) creating a protein bank of leguminous shrubs (cratylia argentea, thitonia diversiflora, king grass, cuban zacate) 3) establishing live barriers by planting trees (pito coral trees) and rows of pinueala (bromelia) to create corridors 4) Within each corridor, trees will be planted within 10m of each

other favouring native species that provide shade (ujushte, carroto, culote, morro) and introducing 3 species of fruit trees per silvopastoral system. These will favour a mixture of short and long cycle of species that are in keeping with the ecosystem and resilient to climate change impacts. Initial identified options include mango, avocado, zapote, citrus trees, guayaba, jocote, macademia and guanaba. 5) Planting improved grasses once trees reach 0.5m in height. Proposed species include pangola and cynodon nlemfuensis these have shown to be compatible with the ecosystems.

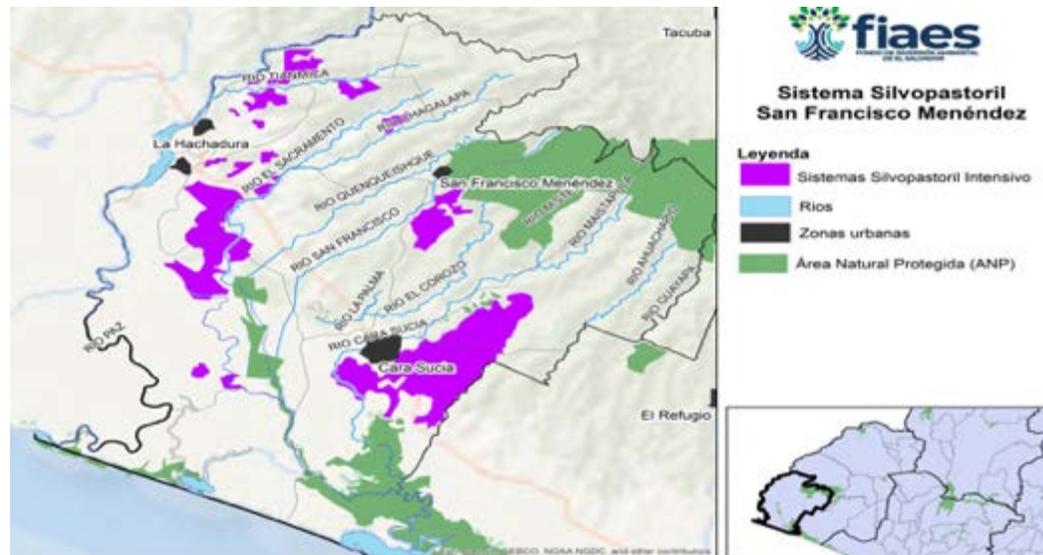


Figure 18: Target Areas for Silvopastoral Systems (purple)

- c. Establishment of Agroforestry systems for coffee and cacao in coffee producing areas (Figure 20). The implementation of these systems will include: 1) introducing contour barriers and individual terracing for trees to be planted in a similar manner as with agroforestry systems described for basic grains for soil and water conservation 2) planting temporal shade crops (local plantain, papaya) as well as permanent shade trees (laurel, cedar, mahogany, carroto). 3) introducing cacao/coffee trees 4) introducing live barriers using fruit trees (mango, coconut, avocado, red jocote, sugar apple) and pito coral tree. Introduction of all vegetation will follow a careful study and will be guided by experts from MARN.

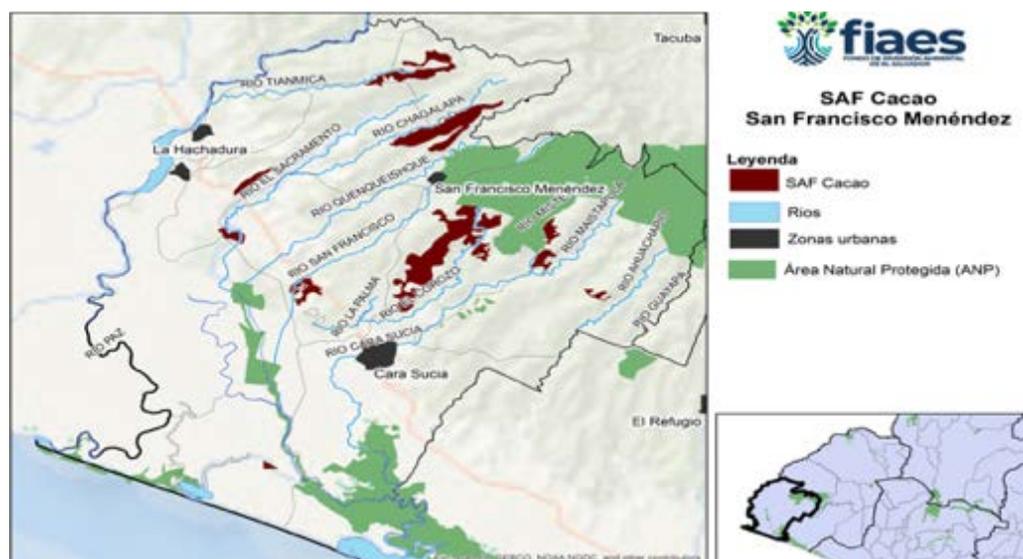


Figure 19: Target Areas for Cacao/Coffee Agroforestry Systems (brown)

79. Productive landscape management within the community restoration plans will support the other outputs in this component by maximizing its results on: 1) limiting soil erosion (more

specifically due to planting trees in vulnerable areas along the rivers and inside degraded land); 2) achieving better soil conservation and improving fertility after prolonged droughts as well as flooding (due to addition of organic material and nutrients, and enhancement of biological processes, supporting fast reestablishment of crops and livestock development); 3) reduction of the speed of water flow and surface runoff during extreme rainfall events, and flooding (reducing loss in crops and cattle numbers); 4) introducing crops that have shown to be resilient to climate change impacts, compatible to the ecosystem and promote crop diversification.

**Output 1.4 Enhanced local capacities for ecosystem-based adaptation and water management .....USD 286,340.37**

80. The output will work with communities in sustainable watershed management by promoting ecosystem based interventions for its protection and rehabilitation. Activities will include working with locally managed water boards and watershed associations located within the area of community restoration plans and include:

- i. Enhancing capacities of local communities and existing water committees to develop a systems approach to management of water sources in the face of climate change projections. This includes helping them identify key sources of water at a community level as well as understanding how climate change will impact them and protective ecosystem-based actions that are required for enhanced resiliency in the face of reduced precipitation. Support will include the management of information on local hydrology (see component 3), workshops on EBA solutions including restoration actions, adaptive best practices at a community level.
- ii. Working with water committees to enhance their capacity and role in strategic planning for water use and supply at a community level to develop and implement activities identified in the community restoration plans aimed at protecting water sources through ecosystem-based interventions and landscape management.
- iii. Working with water boards and local producers to enhance their capacity in the collection of information on water footprint in productive units within community restoration plans: a) systematic collection and dissemination of information on the efficient use of water at the different agricultural production units c) map the footprint of productive systems on water resource use at the landscape level, providing standards that can be used in the local context. This will include monitoring through water logs, identification of technologies for water management and establishing local benchmarks and monitoring systems.

**Component 2. Alternative and adapted livelihoods identified and made viable for resilient livelihoods**

81. Component 2 will address existing vulnerabilities identified within the region as climate change has reduced the access to viable livelihoods. As mentioned above, drought and sudden precipitation have caused important losses in agricultural, and livestock production. While some local organizations have begun to pilot with agroforestry and silvopastoral systems at a limited scale, community buy in has yet to occur and the information and results have not been systemized in manner that can be promoted for larger upscale.

82. Component 2 will encompass the following concrete outputs: a) Identification and promotion of climate resilient products for diversified livelihoods; and b) promoting the introduction of these products into high value markets to create the economic benefits needed for their adoption as economically viable alternatives. The activities proposed in this component will be targeted to organized producers and rural extension workers who will receive technical and market-based support to enhance their economic resilience to climate variability through the identification of new products and adapted productive techniques and linking them to high value markets. These will be implemented by MARN with the support and coordination of MAG at the local level.

**Output 2.1. Identification and promotion of climate resilient products to enhance rural livelihoods..... USD 703,800.00**

83. This output will focus on the promotion of climate resilient crops and products in the region and the implementation of climate adapted productive practices to enhance rural production and livelihoods. The output will result in the development and dissemination of technological packages that will systemize technical information on the adapted practices and products for easy implementation and upscale within the region and in the establishment of 65 community seedbanks with access to locally appropriate climate resilient seeds. It has the following activities:

- i. Systematize and evaluate existing local knowledge and best practices on agroecosystems and rural productive options with the capacity to withstand climate projections for the region (endurance to increased temperatures, droughts and flash floods) including the identification of agricultural products and practices with low environmental impact to reduce land degradation. AF funds will also support research on adapted agroecosystems and the identification of climate resilient local seed varieties that can provide alternative productive livelihoods for the region building upon MARN's initial work with indigenous communities in identifying local seeds in the region, but will add a focus on prioritizing them in terms of their capacity to withstand climatic stress. The work that has been developed through the MARN in this respect, has shown that in some cases local communities at a personal scale have been able to work with varieties of corn and beans that have shown to be more tolerant to droughts. Similar pilot programs have demonstrated this with fruit and cucurbits species that are locally valued. The project will work directly with local communities involved in restoration in implementing this activity and will rely on the technical expertise and support of the local CENTA (ascribed to MAG) in the collection and conservation of locally-adapted varieties and genetic material native to the area and that has been identified as resilient to climate stress conditions. This work will complement the ongoing work being led by MAG from the Improved Genetic Program that has been led by CENTA.
- ii. The establishment of 65 community seedbanks for locally appropriate, culturally relevant and climate resilient crops and plant species for productive and natural systems as identified in the above activity. Carrying out this activity will ensure that productive systems consider and prioritize native species as an option for adaptation (i.e. ojushte, balsam, chestnut, as well as crops such as amaranth, cacao, blackberry, purslane and chipilin). Community seed banks will be developed for each community implementing restoration actions (community restoration plan). A commonly agreed area by the community (could be a house or a community center) will be retrofitted to house seeds, these must meet the minimum technical requisites needed such as ventilation, sanitary dispositions, etc.

Community seed banks will be led by the communities themselves that will form a “seed bank guardianship committee” in charge of the rescue, collection, registry and keeping of the seeds. CENTA will work with the communities involved in the productive landscape restoration (Output 1.3) to establish the seedbanks, provide information on how to process crops for seed extraction, how to classify these and conserve them. Training will also be provided to ensure that communities understand how to maintain and replenish the seed banks to ensure their long term sustainability. A participatory mechanism, will be established by the project and will be institutionalized as a community agreement to ensure that the community has access to the seeds and is able to sustain the seedbank in the long term. Gender considerations will be taken into account to ensure that women have equal access.

- iii. Packaging information into at least 6 technological packages to document best practices that will be recorded during project implementation and systematized for their use. Information included in these packages include the cost of production, methodologies and average yields. The development of climate resilient technological packages will facilitate the in-field replication and implementation of these practices by presenting them in a manner that is familiar to producers, rural extension workers, and agricultural financial institutions.

- iv. Technical support and training targeted to productive associations, cooperatives, local organizations (ADESCOS), and MAG extension officers on the implementation of the adapted technological packages developed through the project. Training will also include information regarding climate risk to local agriculture and how to mitigate these through adaptive techniques. This training will also seek to pave the way for financial opportunities and identify strategies for later engagement with financial institutions.

84. The activities detailed in output 2.1, will provide livelihood diversification and income generation options for implementation within South Ahuachapán and particularly in San Francisco Menendez while addressing the impact of climate change on local livelihoods. By systemizing and building upon existing knowledge, the project aims to go beyond the traditional pilot mentality that has been introduced in the past and instead invest in generating the skills needed to help producers adapt to climate realities in the region, attend to agricultural productivity and reduce land degradation. By targeting productive associations, cooperatives and rural extension workers, the project will engage stakeholders that have been excluded within the overall discussion of sustainable landscape management.

**Output 2.2. Climate adapted livelihoods introduced to new high value markets to generate economic alternatives in the region..... USD 382,500.00**

85. This output will support improved livelihoods by working to promote through market access the economic incentives to sustain and implement climate resilient productive alternatives. It will result in generating practical knowledge and its implementation for the mobilization of financial resources relevant for productive development to ensure the sustainability of adapted livelihoods. Through this output the project addresses key lessons learned from past projects that failed to link sustainable productive options to relevant markets and financial sources. The following activities are proposed:

- i. Establishment of a livelihoods diversification and marketing technical group: the group will be concerned with prioritizing alternative livelihoods options for developing marketing systems and products that will enable alternative, complimentary and enhanced income sources in the area. The technical group will include CENTA Regional, Dirección de Economía Agropecuaria (MAG), MARN, representatives from local productive associations and regional representatives from Banco de Fomento Agropecuario.
- ii. Developing three market studies of high value potential products that are both resilient to climate change and are locally relevant. This work will build up previous analysis made by GIZ in identifying at least 43 potential high value products within Ahuachapán, and will incorporate the information generated through output 2.1. These identified high value products will be further analysed to develop at least 3 specific market studies identifying potential entry points, buyers and income generating potential.
- iii. Workshops, focal groups, meetings and specialized studies focused on agricultural value chain integration and value-added production focusing on integrating the work from the market studies to begin to establish market linkages and strengthen capacities of productive associations in accessing local and national markets.
- iv. Working with financial institutions with local presence to identify potential financial products (mechanism) to stimulate the economic articulation and the circulation of capital in the intervention areas. This can be related to the production of concentrates, production, and commercialization of organic or semi-organic inputs, tourist services, and agricultural production.

**Component 3. Regional Climate and Hydrological Monitoring for Enhanced Adaptation Planning**

86. Component 3 will use AF funds to ensure that local climate and hydrological knowledge is produced, managed and disseminated effectively to enhance decision making and long-term planning to streamline adaptation to climate risks in the region. This will be done through the development of technical models, enhancing climate and hydrological monitoring capacities and developing relevant products for adaptation planning. The data derived from these actions will be integrated within the National Monitoring System that is being developed through government

resources in the monitoring of the PREP. Hence, investments will provide support in not only assessing the impact of the interventions within this project but in measuring all restoration interventions prioritized within the South Ahuachapán region and evaluating them in their capacity to meet adaptation needs.

87. The outputs from this component will also enhance local and national capacities to understand the impact of climate change in local hydrology as well as identify the best measures to address this impact and guide future adaptation measures and investments within the whole region. Through the products derived from this output, the project will specifically generate the capacity to better understand the link between EBA and resilience in local hydrology (surface and underground water sources).

88. Efforts will be focused on developing hydrological information while integrating climate change scenarios through enhanced monitoring of the quantity, quality and sedimentation of water in the Rio Paz (the main source of surface water in the region) as well as linking the information on surface water capture and flow in feeding local aquifers. These tools will be packaged into hydrological information products to better guide EBA investments in watersheds, to enhance territorial planning and management and to improve the quality of early warning systems for meteorological drought. Investments will also be made to include women in the region in the monitoring as well as providing guidance on how to make use of this information for community decision making. This will provide community members with the certainty that has been missing in the region due to a lack of awareness of climate change thus addressing a concern that was reiterated during the various consultations.

89. To ensure that the information is correctly streamlined and makes use of existing national capacities, this component will be coordinated and implemented by MARN through its Observatorio Ambiental (NHMS).

**Output 3.1. Generated the capacity and knowledge to monitor EbA and restoration interventions in South Ahuachapán.....USD 550,650.00**

90. Through this output, local hydrological knowledge will be produced, managed and disseminated effectively to enhance decision making and long-term planning to streamline adaptation to climate risks in the region. This will be done through the development of technical models and by enhancing the climate and hydrological monitoring capacities of the Observatorio Ambiental in South Ahuachapán.

91. Results produced through the hydrological flow assessment and aquifer modelling will be shared with the three municipalities and incorporated within their vulnerability assessments as described in Component 4. Results will also be presented to MARN and MAG to incorporate within their strategies within the region and will be incorporated within the knowledge management products developed through each component (Output 1.1,1.4, Output 2.1, Output 4.1 and 4.3). Products will also be shared with community water boards to help them identify water sources and manage community restoration actions thus bridging the existing information gap at a community level.

92. This output includes the following activities:

- i. Develop, through an international consultancy, an assessment of hydrological flows in the Rio Paz watershed, with the objective of determining the interaction between surface and ground water to generate inputs for integrated management of water resources. The assessment while led by an international consultancy will have the active support of the Observatorio Ambiental and the MARN who will have ownership of the study itself and its products for the purposes of water management and to provide inputs for local and national planning.
- ii. Strengthen capacities of the Observatorio Ambiental by improving their hydrological and climate monitoring network in the Rio Paz, to better assess impacts of climate change in river flows in both dry and rain seasons. Investments will include: a) the placement of a new hydrometric station along the river basin; b) installing a suspended basket and pulley

system in La Hachadura that will allow the measurement of flow velocity, water levels and sediment suspension and; c) enhancing existing hydrological monitoring system in el Jobo to include Doppler radar for real time river flow monitoring (See Figure 20)



**Figure 20** Location of Observation Equipment

These investments will enhance the capacities of existing early warning systems through in situ monitoring of water levels and flows along the river (vs current wading methods not accessible during extreme weather events) thus allowing for better quality of observations and allowing the development of a Flow Expenditure Curve to more accurately measure flow discharge for enhanced monitoring and early warning alerts in the case of extreme rainfall. Investments will also be made in strengthening the Observatorio's capacity on the use and validation of satellite remote sensing data sources and techniques that will allow for improved monitoring of CC impacts in a manner that is cost efficient and effective.

- iii. Produce a conceptual model of the ESA-01 aquifer that provides water to the South Ahuachapán area. The inputs obtained through the hydrological flow modelling (i), will be used in the definition of a conceptual model of the ESA-01 aquifer, also analyzing hydric balances and aquifer recharge, and including a diagnostic on the current state of the aquifer. Expected products are maps representing the behavior of groundwater that will be able to model how water levels will behave as precipitation changes occur as a result of CC. This information will be packaged and presented in a manner that is accessible to local water committees, local (municipalities) and national government (MARN, MAG).
- iv. Selecting and developing a set of monitoring indicators associated to restoration actions in the region to measure the effectiveness of the interventions in overall climate resilience. This work will be closely tied to the national monitoring system being developed by MARN for the PREP, thus incorporating the potential to measure the impact of EbA in resilience outcomes. Monitoring indicators will be published through a dashboard that will be created by the MARN and the Observatorio and presented to all national agencies involved in the implementation of the PREP. The dashboard and indicators will standardize results from all restoration efforts in the region and will inform land management interventions to ensure adaptation objectives are included by all territorial actors.
- v. Train local communities (women's associations) to be active participants in the monitoring process. Local workshops will be held by the Observatorio Ambiental in the field, these workshops will be focused in providing a foundation of local climate information knowledge

and climate change, training on how to record observations and general forecasting. This will enhance project efficiency, local capacities through active learning. Information derived from local communities will enhance local forecasting capacities and will be included within the monitoring and evaluation framework of the project hence spurring local ownership of the project and helping sustain outcomes.

93. Implementing the activities in output 3.1. will add to establishing a diverse range of adaptation data and information that can be used to support various monitoring and evaluation purposes related to EBA. The activities will have helped to identify and collect feasible base, up-scaling and knowledge resources relevant to measure ecosystem-based adaptation impact, and how they relate to spatially referenced data and/or policies in the region. It will also generate a solid baseline of information to guide future restoration processes to incorporate within their objectives impacts in managing climate induced hydric stress.

**Output 3.2. Improved production and utilization of hydrological and climate information applied to decision-making by stakeholders and local development agents.....USD 326,000.00**

94. This output has the main objective of strengthening the knowledge of climate hazards and threats, by building capacity of local and national stakeholders in the interpretation and use, of climate information in order to stimulate adaptation action, specifically in the form of EBA. The increase in information uptake and its use will contribute significantly to the development of regional adaptation strategies focusing on water and land management.

95. This output seeks to: 1) Support the creation and application of knowledge for better decision making and climate risk reduction; 2) assimilate and mainstream project results and knowledge of the interactions between climate change adaptation, watershed management and land restoration; and 3) improve knowledge-sharing systems at all levels. Focus will be on the following activities:

- i. Support MARN, MAG and National Observatory staff, on production and uptake of end-user information products, targeting relevance to priority EbA adaptation monitoring, and enhancing EWS systems relevant to land users (i.e. hydrological drought, erosion indices, etc.). A result of this investment will include the development of 5 relevant knowledge management products that will be monitored in terms of their dissemination and use. A key product will be the development of a local Atlas on Climate Change that will incorporate climate, rainfall, temperature, wind and soil moisture maps for the region in a manner that is useful for territorial actors such as local agricultural and cattle producers. Information from the local Atlas on Climate Change will be presented in the form of a practitioners' guide to local actors including, communities, producers, environmental organizations, and municipal authorities.

New products will be benefitted from enhanced observation systems and will be focused on allowing information to be better tailored to specific sectors (agriculture, fishing, communities, restoration actions). Information products will complement existing daily weather bulletins emitted during rainy seasons by the Observatory (disseminated through text messages, website and directly to local authorities) and are monitored by Civil Protection. These currently provide information on rainfall projections as well as average annual river flow indices (published once a year on June). These while useful require greater precision and are not easily understood by all terrestrial actors that need to transpose this information to measure impact on livelihoods and property. AF funds will be used to better identify end user needs (through surveys) and in trainings to help key actors (MARN, MAG) work with the Observatorio to develop these products while focusing on local information flows including Civil Protection representatives, municipal authorities, rural extension officers and local NGOs working on restoration activities. An analysis on the use of the most effective dissemination channels (technologies and key actors) will be made to ensure that products focus on reaching end users.

- ii. Strengthen local capacities on climate change and its impacts in the region through trainings directed at government and non-government partners on incorporating climate information into planning, policies and activities allowing for non-technical information users to understand and make use of fundamentally technical data. This will include workshops with MAG and MARN representatives as well as municipal authorities and local water committees.

**Component 4. Strengthening of inter-institutional coordination and local governance for landscape management in the face of climate variability and change**

96. Weak governance has been identified by the local actors as one of the main barriers limiting their capacity to develop the actions and strategies required for climate resilience, particularly in the case of EBA. Few mechanisms are available to generate the coordination and concerted actions that are required for developing and adopting a general adaptation strategy that addresses the needs of all land users. National, regional and local initiatives have been implemented in the south Ahuachapán region, however these initiatives have failed to incorporate local authorities in disseminating best practices and in generating in them the required capacity needed for their assimilation and potential upscale. Component 4 will address these factors in the territory promoting, collaboration and synergies from land users (producers, conservation groups, developers, etc.) guiding them to incorporate adaptation as a long-term measure of sustainability in south Ahuachapán. Activities under this Component, will generate best practices and tools on adaptation planning that can be replicated in other areas of the country.

97. The line-up of outputs in component 4 targets key barriers to the activities designed for the project, ensuring sustainability and consolidation of project results. This will reflect positively on: 1) enhancing inter-municipal coordination by the creation of a technical mechanism within the association of municipalities of Microregión sur, to promote decision making that allows for the informed and coordinated action; 2) building adaptation plans that can be streamlined in municipal and local development planning instruments and 3) working to unlock adaptation financing and action within the territory while including all stakeholders.

98. This component favours consultation and collaborative action among local associations and stakeholders to ensure collective ownership and social sustainability of the overall project planning and results, and deepen insight into current, historic and potential future adaptation issues, fostering good governance and creating an environment conducive to innovations.

99. Implementation of this outcome will be led by MARN in close collaboration with FIAES, municipal governments, as well as local stakeholders. Work will include collaboration with the association of municipalities of south Ahuachapán, integrated by the municipal governments of San Francisco Menendez, Jujutla, Guaymango and San Pedro Puxtla, with the main objective to direct actions to streamline adaptation in the development of the four municipalities.

**Output 4.1 Established technical capacities in municipal governance to integrate information and promote concerted action for adaptation.....USD 441,900**

100. This output will strengthen governance at the local level by enhancing the capacity of municipal authorities to manage technical information (facilitating uptake), while ensuring coordination and guaranteeing the participation of land users in a manner that enables the effective dissemination of information for adaptation planning.

101. The following activities under this output will be undertaken:

- i. Establish a technical advisory council at the territorial level (TAC), to improve coordination and dialogue between institutions and associations acting locally. This group will work to support the Association of Municipalities of Microregión Sur as a potential clearing house on sustainable landscape interventions and knowledge products within the area, thus enhancing coherence and coordination to facilitate EBA actions at a municipal level. It will also provide support to local actors in identifying legal and governance strategies to

enhance sustainable land management. This would be done through the support of a governance coordinator who would work with municipalities

The TAC will also serve as a consultative mechanism for landscape interventions including those generated by this project, thus generating a feedback capacity that will support project implementation. Composition of the technical advisory council will include representatives from local organizations working within the landscape including conservation associations, watershed committees, productive associations or cooperatives, community leaders, civil society organizations and regional representatives of relevant government institutions such as MAG and MARN.

- ii. Develop workshops and capacity building events to foster and local appropriation and institutionalization, of the lessons learned, knowledge products (particularly climate information products) and best practices derived from the project to showcase success and validate local/regional/national strategies towards adaptation. Capacity building will be geared towards municipal authorities, community leaders and TAC members to ensure that information is disseminated within the area.

Development of knowledge materials that can be used for community-led replication and for dissemination amongst the municipalities in the municipality association, including dissemination of knowledge about ancestral and new adaptation measures.

**Output 4.2 Local adaptation plans designed and included in the municipality's territorial planning.....USD 117,000.00**

102. This output will result in the creation and adoption of adaptation plans for the Ahuachapán Sur region and the institutional arrangements for their implementation. The project will invest in generating the tools and discussions that will be needed to ensure that long term adaptation strategies are identified, prioritized and include the agreements needed for their implementation. To achieve this, the following activities will be implemented:

- i. Develop a climate vulnerability assessment of South Ahuachapán that takes into account information generated through the project (aquifer modelling, water flow mapping, Climate Change Atlas, community restoration plans, etc.) as well as existing information such as local development plans and land use maps. Results from these documents and products will be complemented with continued stakeholder consultations and community evaluation mechanisms to better evaluate how communities assess risk and climate variability and identify their own vulnerabilities and priorities. This will be done via household surveys, meetings in community forums and interviews with key economic sectors and municipal authorities. Specific attention will be made to identify vulnerabilities facing vulnerable populations including women.
- ii. Develop a local adaptation plan for Ahuachapán Sur ensuring a participatory, inclusive and transparent process. Synergetic criteria derived from the climate vulnerability assessment will be used to set priorities that reflect the needs and circumstances of the territory under the local adaptation plan. These will be consulted with the region via the mechanisms developed through the project including the TAC, the livelihoods diversification and marketing technical group as well as established mechanisms such as the Ahuachapán Partner Group and with community organizations as identified through the project's stakeholder engagement plan. Local adaptation plans will also specify implementation arrangements and agreements within its framework in the form of strong action plans to support the implementing of activities and evaluating progress towards achieving adaption objectives. A key result of this activity will be to streamline results from the local adaptation plan into municipal development planning instruments.

103. This output will make strategic use of the outputs derived from all the project components including the information and agreements derived from the community restoration plans, adaptation options for sustained livelihoods, climate information products and governance arrangements and mechanisms for inter sector coordination. These will be incorporated into

providing a clear strategy for upscaling ecosystem-based adaptation and generating the enabling conditions for climate resilience in the region in the form of local development planning instruments. It will also address a key barrier in enhancing local governance.

**Output 4.3 Enhanced capacities in local organizations to articulate actions and mobilize financing for Ecosystem-based Adaptation.....USD 200,000.00**

104. The output will look to identify financial mechanisms for the implementation of specific adaptation actions within the territory. This will include not only in helping local organizations identify a pipeline of investments to generate climate resiliency in Ahuachapán Sur but also to identify long term financing sources to ensure their implementation. These will include facilitating private sector investment.

105. The project through this output, will develop the required capacity of key actors intervening in South Ahuachapán (such as FIAES) to manage project results beyond the project lifetime and mobilize climate financing within a larger territorial level thus generating sustainable long term resiliency. This will include working with the private sector and local organizations in identifying key priorities for investment to offset climate risk through EBA, enhancing market value of products through certification mechanisms, and providing capacities to local and national organizations on adaptation project design, prioritization and financing. This will allow the identification of correct incentives for private sector investment and provide support in generating the financial and institutional mechanisms best suited for their implementation.

106. Activities under this output include:

- i. Providing local groups and associations with enhanced technical assistance, capacity building and information tools to attract and mobilize EbA financing (e.g. GHG quantification, water certificate tracking, commodity certificate tracking, gap analysis tools).
- ii. Supporting the development of an enabling environment that is conducive of private investments in the area of intervention, indirectly mobilizing climate finance that can be applied locally. This will involve working with private sector, including Banco de Fomento Agropecuario, in identifying key priorities, needs and interventions to offset impact on ecosystems and manage their financial risk to local climate change projections. Products resulting from this activity will include the development of business cases for EBA investments, the development of cost benefit analysis for adaptation investments, as well as feasibility studies to identify potential mechanisms to mobilize climate financing from private sources through concessional loans, offsetting mechanisms, collateral funds, venture capital, etc.
- iii. Enhance the institutional and legal capacity of FIAES to attract and mobilize climate finance within a larger financial architecture for adaption in El Salvador. This would include the coordination between MARN and FIAES on developing work and strategies that feed into addressing El Salvador's adaptation needs and pipeline to access relevant climate finance.

107. In focusing on capacities from local communities and government actors, as well as those they collaborate with, this outcome improves the contextual conditions on how climate change problems are framed and prioritized to detonate innovative, inclusive and financially viable responses that lead to better mobilization of organizations, resources and stakeholders at all levels to address climate vulnerability. Through this output, local organizations are empowered with the skills and resources to address various climate adaptation needs including establishing a business case to access financial instruments from financial institutions (such as Banco de Fomento Agrario). In enhancing the role of FIES, the project is also generating the bases to upscale projects results and translate them to other regions.

**B.** Describe how the project/program provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/program will avoid or

mitigate adverse, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Economic	<p>The project will directly benefit an estimated 6,396 households (30,211 people) who are especially vulnerable to the impacts of climate change in this region, through the design and implementation of concrete adaptation measures for more efficient use of water resources. These measures will provide economic benefits to the families through savings and revenues generated by increasing agricultural yields and production (for home consumption and sales) and by increasing their access to ecosystem-based services. For example, implementation of agroforestry systems with basic grains (maize) have been estimated to increase annual yields by 215kg per ha while promoting the diversification by 24% of traditional crops with climate resilient products such as macadamia (annual 104kgs per ha), hence enhancing food security in the faces of climate change. In the case of silvopastoral systems, milk production is estimated to increase annually by 8,700 kg<sup>17</sup></p> <p>Access to seeds (through community seedbanks) for climate resilient crops will also ensure that communities have the means to diversify their productive capacity and hence increase their capacity for revenue generation. Revenue generation will be also supported through training provided to productive associations and by access to high value markets and through the reduction of crop losses due to resilient agricultural and productive systems.</p> <p>The project will also provide economic benefits in terms of avoided loss and costs that are referenced under the cost-effectiveness section and that address a main concern of communities that have felt the impact in loss of livelihoods in the region due to climate change.</p> <p>Information products developed through output 3 will also allow for more efficient planning and investment in protecting water sources.</p>
Social	<p>The project will work directly with 30,211 people that account for the total rural population in San Francisco Mendez of which 51% are women to generate the capacities for resilience to climate change and sustainable livelihoods (enhancing access to ecosystem services in the area, generating capacity for diversified livelihoods to improve household incomes that have suffered due to climate change and ensuring access to improved and more precise climate information services to manage uncertainty and enabling the articulation of coordinated actions to increase investment in the area).</p> <p>The project will benefit a further 67,805 people in South Ahuachapán region through investments in Components 2,3 and 4. This includes knowledge generated around the modelling of the common ESA-01 aquifer that will result in improved water management and monitoring and establishing potential benefits in water access and quality for the population it serves. This population will also directly benefit from enhanced climate information knowledge which will be locally relevant.</p> <p>The project is further targeting all municipalities of South Ahuachapán by enhancing the capacities of the Association of Municipalities of Microregión Sur (comprised of San Francisco Menendez, Guaymango, Jujutla and San Pedro Puxtla) through the creation of the Technical Advisory Council that will facilitate local governance and the capacity for territorial management. In addition, the project will invest in the development of a local climate vulnerability assessment and local adaptation plan that will comprise of all 4 municipalities to generate the inputs required for streamlining local adaptation in municipal planning thus generating benefits for the entire population within the region (98,016 people).</p>

<sup>17</sup> Leander Raes, Tony Nello, Melinka Nájera, Oscar Chacón, Kelly Meza Prado y Andrés Sanchún. 2017. Análisis económico de acciones para la restauración de paisajes productivos en El Salvador. Gland, Suiza: UICN. 2017, p 36

	<p>Community territorial management, capacity building and disseminated knowledge on natural resources generated through the project will promote social cohesion and reduce social conflicts in terms of land use and environmental management.</p> <p>Improvements to the access food and water (both quantity and quality) in drought conditions will expectedly improve health conditions in households. Agricultural adaptation will support application of relevant ancestral/traditional techniques (e.g. cultivating on terraces, using traditional plant varieties more resilient to climate variations) and seeds will support the preservation of culturally relevant practices and knowledge as seen in similar projects in the LAC region<sup>18</sup>. Knowledge generated through the project, will be packaged for easy upscale and replication by the enhanced capacity of rural extension workers whose zone of influence is not exclusive to San Francisco Menendez.</p> <p>Identification of private sector investment and mobilization of climate funds will potentially enhance the investment in the area.</p>
Environment	<p>The project will work directly with 3,864 ha in productive landscape restoration that will support biodiversity conservation and the continued provision of ecosystem services to both the rural dwellers (such as water, forest materials); and the urban communities (especially in water supply). This will include improved indices in ecosystem connectivity (mainly through mangroves) and the indirect protection of sensitive marine systems such as coral reefs</p> <p>Restoration activities will have the potential to increase carbon stocks and reduce emissions due to unsustainable landscape management (land use change). Actions with the most significant mitigation potential are the techniques focused on the restoration of natural ecosystems (Output 1.2), including 142 ha of mangrove restoration (134 TCO<sub>2</sub>e / ha) and 284.52 ha of riparian forest (127 TCO<sub>2</sub>e / ha), followed by the transformation of 2,708 ha of basic grain systems into of agroforestry systems for basic grains (84 TCO<sub>2</sub>e/ ha) and 664 ha of traditional livestock system into silvo pastoral systems (10 TCO<sub>2</sub>e/ ha) that will be promoted through the community restoration plans<sup>19</sup> (Output 1.3).</p> <p>The adaptive techniques for crop improvement that will be systematized and disseminated through the project will provide positive impacts through decreasing soil erosion, and reducing chemical fertilizers and pesticides use that pollute water bodies. The implementation of the SAF of cocoa in the mosaic of crops, grass, and vegetation has the highest average impact on the erosion reduction, while the cocoa SAF in the coffee plantations has the most significant effect on the decrease in the export of sediments.<sup>20</sup> These will be measured by the PREP monitoring system based on indicators developed by Conservation International's InVEST system.</p>

<sup>18</sup> <https://undp-adaptation.exposure.co/banking-on-seeds>

<sup>19</sup> TCO<sub>2</sub> estimates taken from: Leander Raes, Tony Nello, Melinka Nájera, Oscar Chacón, Kelly Meza Prado y Andrés Sanchún. 2017. Análisis económico de acciones para la restauración de paisajes productivos en El Salvador. Gland, Suiza: UICN. 2017, p 28

<sup>20</sup> Ibid, Table 7 p.34 provides information on estimated reduction on soil erosion rates based on criteria by UICN through landscape restoration rates.

Gender	<p>The project will work to directly benefit 6,396 households (100% of rural households of which approximately 1,152 are headed by women) in San Francisco Menendez. The project indirectly benefits 34,492 women in the South Ahuachapán region.</p> <p>Stakeholder consultations during project development indicated that that climate change impacts affect women differently and hence require adaptation strategies tailored to their needs. With this in mind participatory processes incorporated within the project include specially designed methodologies to ensure the participation of women and enhance the inclusion of their views into the activities of the project. These were integrated in the project design in the following manner per component:</p> <p>Component 1 will ensure women's participation in the restoration activities by ensuring that dissemination of the call to proposal reaches women led associations that are active in the area and have been identified within the stakeholder consultation process. All community restoration plans will also include a local stakeholder map that is gender sensitive to ensure participation of women and the inclusion of their priorities and views in land management.</p> <p>Component 2 will provide capacity building to all 16 women productive cooperatives in the area and will invest in developing at least 1 technological package and 1 market study that addresses the value chain of where women participation is the highest. These gender based results are included within the targets of the project evaluation framework. Women will also play an important role in the development of local seedbanks and will be represented within each seedbank guardianship committee established. Past projects and community consultations have demonstrated that women place an important value in the collection of seeds as a means to rescue ancestral knowledge. This will provide benefits in enhancing the climate resilience of women livelihoods by identifying and targeting productive practices that benefit activities with high economic participation of women.</p> <p>Component 3 specifically includes training to local women's associations so that they become active participants in the climate monitoring process and have the capacity to understand the information being derived from it. In addition, Observatorio Ambiental will receive training on how to better provide climate information so that it is suitable to women's needs.</p> <p>Component 4 includes the establishment of council for dialogue at the territorial level to strengthen local governance. This council will include women participation and representation with at least 30% of its members being women. In addition, local adaptation plan to be developed in this component will include vulnerability assessments that incorporate a gender sensitive approach including the development of a more in depth gender analysis. This has been included as a target within the Gender Action Plan and will be closely monitored by the Project Manager and evaluated within the mid-term and final evaluation.</p> <p>A gender action plan and budget has been prepared as part of the project proposal process (section 7.4 included within the ESMP). The plan ensures that gender considerations are included throughout the project implementation and a budget is provided for this. The ESMP and Gender Action Plan will be continually monitored by the project's PMU and evaluated during the project's independent mid-term and final evaluations.</p>
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**C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.**

108. A recent assessment of damages to the agricultural sector in Ahuachapán, pointed out that, due to an extended drought period, the average numbers observed for the harvest of corn and beans (June/July 2015) had a reduction of 94%. Climate change projections also indicate that drought like conditions will become more frequent thus providing an immediate threat to ecosystems and livelihoods. This assessment has been voiced by the communities in South Ahuachapán that have shared their concern to the decreased livelihood options and ecosystem services available as climate change has become evident in the region.

109. Alternatives to the proposal to manage immediate climate impact through grey measures would include the building of artificial borders along the river manage sudden flooding along the Rio Paz coupled with increased well digging. These solutions although fully plausible are costly, especially in terms of maintenance cost. An analysis made in the Guatemala side of the Rio Paz demonstrated that in 2010, over USD 7million of investment in protective infrastructure along the river was damaged as a result of sudden flooding<sup>21</sup>. In the case of El Salvador, in 2010 Agatha damaged an estimated USD 1.8 million in protective infrastructure constructed along the river. Hence, grey solutions have seemed to be not only expensive but ineffective in managing sudden flooding conditions. Furthermore, the lack of information around the aquifer (as demonstrated in the barrier and context section) does not guarantee that increased well digging will prove to be a sustainable long term solution to the region's water problems. While this solution has been employed in the past in not only El Salvador but in most Latin American Countries, lack of information regarding the water table and aquifer re charge capacity have proven to be obstacles in recommending well digging as a long term adaptation strategy even when coupled with water management actions.

110. The interventions proposed provide cost effective solutions including ecosystem-based investments through the design and implementation of community restoration plans that will make communities active participants in restoration actions. This will have an impact in terms of potential loss of livelihoods but also in enhancing the capacities of the landscape to manage projected climate conditions. A cost-benefit analysis was carried out by the International Union for Conservation of Nature (UICN), in coordination with the MARN. The financial and economic evaluation was carried out during 20 years, through a calculation of profitability and analysis of income (financial benefits) and environmental and social benefits (co-benefits) between land uses. The following table shows the results of the cost-benefit effectiveness by ha that represent the different items in the selected territory.

**Table 4 - Financial Analysis: Costs and benefits of current use and use of the land proposed under PREP**

<b>Current Net Value of the Restored Land Use (US \$ / ha)</b>			
<b>Type of Transition</b>	<b>VAN (US\$/ha) – Benefits Net</b>		
	Current soil use	PREP soil use	Value Margin
<b>1. Cultivation of basic grains in an agroforestry system with basic grains</b>	4.130	4.438	308
<b>2. Natural grass to silvopastoral system</b>	7.553	18.269	10,716
<b>3. Mosaic of crops and pasture to agro-silvopastoral system</b>	4.638	12.124	7,486
<b>4. Mosaic of crops, pastures and vegetation &lt;900 m.s.n.m. a Cocoa agroforestry systems (1)</b>	3.100	15.473	12,373
<b>5. Sugarcane (with burning practice) for green sugarcane harvest</b>	3.222	4.067	845
<b>6. Coffee &lt;900 m.s.n.m. a Cocoa agroforestry systems (2)</b>	1.206	14.767	13,561
<b>7. Renewal of for low-altitude Coffee &lt;800 m.s.n.m.</b>	1.096	2.894	1,798
<b>8. Renewal of medium-height coffee 800-1200 m.s.n.m.</b>	1.372	6.003	4,631
<b>9. Renewal of high-altitude coffee &gt; 1200 m.s.n.m.</b>	2.275	13.076	10,801
<b>10. Crops and Average Use (1, 2, 3, 4 and 5) forest</b>	4.329	-5.166	-9,495
<b>11. Weathered mangrove towards a Mangrove Restoration</b>	-	4.061	4,061

(Current value with r=10%).

Source: UICN, 2017

<sup>21</sup> Rodriguez Herrera, E. (2010) "Dinámica hidrológica en la cuenca baja del río Paz." Wetlands International.

**Table 5 – Estimated costs and benefits of current land use and proposed land-use transitions**

Land Use	Total costs (US\$/ha.)	Gross benefits (US\$/ha.)	Net benefits. NPV (US\$/ha.)
<b>Current Use</b>			
1. Staple grains	8,429	12,559	4,130
2. Natural pastures	16,856	24,409	7,553
3. Crop mosaic and pastures	16,896	21,534	4,638
4. Crop mosaic, pastures and vegetation < 900 masl	11,410	14,510	3,100
5. Sugar cane	17,581	20,803	3,222
6. Coffee < 900 masl	3,619	4,826	1,206
7. Coffee < 800 masl	3,289	4,385	1,096
8. Coffee 800 - 1,200 masl	4,115	5,487	1,372
9. Coffee > 1,200 masl	6,826	9,101	2,275
10. Weighted average (1, 2, 3, 4 & 5)	13,436	17,764	4,329
11. Degraded mangroves	0	0	-
<b>Transition</b>			
1. Staple grain agroforestry system	17,632	22,070	4,438
2. Silvopastoral system	24,543	42,812	18,269
3. Agrosilvopastoral system	19,802	31,926	12,124
4. Cacao agroforestry system (1)	22,372	37,845	15,473
5. Green harvest in sugar cane	20,639	24,706	4,067
6. Cacao agroforestry system (2)	20,148	34,915	14,767
7. Lowland coffee rehabilitation	18,695	21,589	2,894
8. Medium altitude coffee rehabilitation	18,695	24,698	6,003
9. Highlands coffee rehabilitation	18,695	31,771	13,076
10. Riparian forest restoration	5,166	0	-5,166
11. Mangrove restoration	15,420	19,481	4,061

Source: Modified from Raes et al., 2017<sup>22</sup> and <sup>23</sup>

111. The transitions described above generate a definite benefit cost not only for the producers but also for the ecosystem services at the different points. The project by investing in productive landscape restoration will in fact look to create these scenarios in i) transition from cultivation of basic grains to agroforestry systems, ii) transition from natural grass to silvo pastoral systems and iv) coffee as well as through v) mangrove restoration. The method of employing landscape management as a restoration strategy will be pursued through a combination of replanting, completion, assisted natural regeneration (through protection) – that can be considered more cost-effective than complete clearing and replanting. Restoration will be carried out through using native plants, promoting the use of local organizations and community members thus reducing the cost of inputs for restoration activities and ensuring the long-term sustainability of interventions. This will in turn be enhanced by providing access to seeds through seed banks that will ensure the access to restoration material beyond the project implementation instead of the business as usual solution of relying on purchased seeds. By promoting community planning,

<sup>22</sup> Raes, L., Nello, T., Fonseca, J. F. (2017). Análisis Económico de las Categorías de Intervención para la Restauración de Paisajes Productivos en El Salvador. UICN-ORMACC.

<sup>23</sup> MARN. (2018). Plan de Acción de restauración de ecosistemas y paisajes de El Salvador con enfoque de mitigación basada en adaptación. Proyecto 2018 – 2022

costs are reduced through a more efficient use of inputs and increasing the scale of intervention, which has in the past only looked to promote *planes de finca* at an individual level with producers that often only have access to 1ha of land.

112. The proposed activities in Outputs 1 and 2 favour an EBA approach will pave the way for better resilience, finance and incentive mechanisms, that in turn will strengthen livelihoods, community resilience, and agriculture production. Therefore, avoiding overreliance on conventional and costly agriculture and livelihood management strategy mechanisms, and grey measures (including isolated measure of no-tillage, or cropping systems implemented to reduce water runoff) estimated by the GoES to cost over USD 5,000,000 (with beneficiaries not disaggregated nor targeted by gender) during the course of 4 years in San Francisco Menendez. Results from a global assessment of five different watershed conservation activities showed that landscape restoration combined with conservation agriculture (e.g. no tillage) is the most cost-effective approach to improving water quality and quantity for downstream users<sup>24</sup>. Similarly, a modelling exercise for Costa Rica's Reventazón watershed showed that soil conservation practices in the upper watershed areas reduced erosion by ~97%. AF funds will have direct and indirect benefits, costing less and achieving better and long-lasting results, contributing to progressing El Salvador's sustainable land and resources management objectives while building local resilience to CC, increasing ecosystem services availability and supply. Furthermore, the activities proposed look to get build and develop local technical knowledge, increase collaboration between ministries and international organizations working in agriculture (e.g. with support from CENTA that will help build upon work from existing local seedbanks in the region).

113. Component 3 addressed the need to kick start an effort towards integrated water resources monitoring and management in the region, a system that is tailored and integrates CC and adaptation needs into its core functionalities and rationale and in order to maximize economic and social benefits in an equitable way and at the landscape level. The inherent complexity of establishing effective hydrological monitoring and information dissemination systems creates the need for large investments (for Example, similar monitoring systems have been designed and established covering similar land extent in Latin America<sup>25</sup>, Asia<sup>26</sup> and Africa<sup>27</sup>, with an average cost of USD 17,000,000, with implementation taking place under four years). The activities predicted to take place under the project with AF funds will be demonstrated to be cost effective as these address only key barriers and gaps identified by MARN and serving only to complement existing infrastructure. The analysis in the formulation of the proposal also looked to ensure that maintenance costs could be incorporated into national budgets, while favouring institutional capacity building (for example use of GIS software to compliment current analysis). By looking to prioritize access to climate information the project also looks to ensure the equitable distribution of products and benefits of CC information in a manner that looks to be locally appropriate and seeks to enhance the information of existing EWS, particularly as they relate to flooding and drought.

114. Activities predicted under Component 4 provide support to the other three proposed components, helping avoid *ad hoc* approaches, and establishing the conditions under which the project is most likely to produce medium and long term positive net benefits in San Francisco Menendez. The cost-effectiveness of improving systems in place for inter-institutional coordination is variable depending on the local context. Nevertheless, conventional approaches to the activities under component 4 were estimate by MARN to cost approximately USD

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<sup>24</sup> These activities include: forest protection, reforestation, agricultural best management practices, riparian restoration and forest fuel reduction.

McDonald, R.I. and D. Shemie. 2014. Urban Water Blueprint: Mapping conservation solutions to the global water challenge. The Nature Conservancy: Washington, D.C.

<sup>25</sup> International Bank for Reconstruction and Development (2016). Salado integrated river basin management support project.

<sup>26</sup> The World Bank (2013). Vietnam - Second Phase of the Mekong Integrated Water Resources Management Adaptable Program Loan Project: indigenous peoples plan.

<sup>27</sup> The World Bank (2017). Luanda Bitá Water Supply Project Guarantee.

2,000,000<sup>28</sup>. For this component, the AF contribution will leverage existing efforts by MARN to create a suitable environment for integrative visions of CC adaptation based on landscape restoration and livelihood diversification. The investment predicted for Component 4 will work to develop better local governance, autonomy and decision making that can positively influence landscape and community resilience outcomes, through better inter-institutional coordination that enables the presence of CC adaptation policies and institutional arrangements. The investment made by AF would therefore put in place and advance from a solid basis for inter-institutional coordination that builds resilience, thorough better institutional coordination and policy formulation, that uses participatory dialogue platforms and builds upon integrated landscape approaches.

115. The project will also build upon and leverage existing information and best practices in the region in terms of sustainable production at a landscape level. While these have been practiced within the region they have yet to be packaged or further analysed for their real potential in income generation within larger markets. Therefore, the project will invest in the systematization and collections of these practices for replication within the community restoration plans as well for productive stakeholders in the region and generate the market knowledge of already pre-identified potential products. The targeting of specific value chains for the region will facilitate uptake by producers and the extension support that will be provided by the project will train extensions workers within cooperatives and productive associations who will be able to disseminate these experiences to a larger network. A similar approach is considered in Component 4, where the project will work through the Association of Municipalities to provide support to all 4 of the municipalities within the South Ahuachapán region - not just to San Francisco Menendez. The technical working group will hence become a strategic actor disseminating in a cost effective manner the knowledge generated through the project, particularly that developed through components 3 and 4 to ensure its streamlining in all 4 municipalities. The local adaptation plan generated through the project will serve as a guide to all 4 of these municipalities.

116. Finally, the project has been designed to fit within national capacities and strategies to enhance cost efficiency and promote sustainability. It will make strategic partnerships with national institutions such as FIAES that have the capacity and knowledge to operate within the territory thus reducing the cost and risk of operation while also enhancing local capacity to manage international and national climate resources. Project components were also strategically designed and placed as to support and ensure the AF funds invested will be effectively implemented, sustained and realized by communities in the intervention area, helping develop initiatives and capacity that can be scaled up on the region, paving the way for capturing further international resources and funding on CC. The project will also be included as part of the national restoration strategy and as such will be feeding and receiving information on restoration monitoring that will be consolidated nationally through the National Monitoring System for Restoration that is currently being developed by MARN and will be operating by end of 2019.

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

117. El Salvador has made important progress in strengthening the regulatory and institutional framework that allows the country to face the effects of climate change in a timely and efficient manner, as evidenced by a series of national regulatory instruments that have the purpose of reducing and managing climate change and its effects in the land sector. The Five-Year Development Plan "El Salvador Productive Educated and Safe" 2014-2019, establishes in its objective 7, that the country should transit towards an economy and society that is environmentally sustainable and resilient to climate change.

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<sup>28</sup> United Nations Environment Programme (2014). Building climate resilience of urban systems through Ecosystem-based Adaptation (EbA) in Latin America and the Caribbean.

118. The project is consistent with the National Plan for Climate Change, specifically in the following objectives: i) Achieve the mainstreaming of climate change adaptation in the planning and management of socioeconomic sectors and national ecological systems; ii) Create a process to generate knowledge and strengthen capacities applied to climate change adaptation; iii) Develop and apply methods and/or tools for the assessment of impact, vulnerabilities and to improve climate change adaptation; iv) Sensitization and information for climate change adaptation.

119. In addition, the project supports the country's Nationally Determined Contribution (NDC), which includes as an objective the reduction of vulnerability in the agriculture, livestock and forest sectors, as well as the establishment and management of one million hectares through climate resilient and sustainable landscapes, conserving the current tree cover (27% of the territory) and increasing the tree cover by 25% with agroforestry systems and reforestation of critical areas such as riparian forests, aquifer recharge zones and areas that are prone to landslides.

120. The project is consistent with the National Environmental Law approved in 1998 and updated in 2012, whose object is to develop the actions of the National Constitution related to conservation, protection and restoration of environment to assure the sustainability and liability of livelihoods of population and enhance capacities for climate change adaptation. The project is also aligned with the National Environmental Policy (2012), which aims to reverse environmental degradation and reduce vulnerability to climate change; and the National Strategy of Environment (2013), divided into four strategies: Biodiversity, Climate Change, Sanitation and Water Resources. The project directly supports the implementation of the National Program of Restoration of Ecosystems and Landscapes (PREP), structured as one of the key instruments of the National Environmental Policy to reduce the country's high vulnerability to climate change and increase adaptive capacity.

121. The scope, objectives and activities proposed in the project are consistent with the approach of the PREP and its action plan (Action Plan for Ecosystem Restoration and Landscapes in El Salvador 2018-2022). The PREP is framed under a holistic approach that includes the ecological rehabilitation of ecosystems and recovery of ecosystem services, the improvement of livelihoods, the stimulation of local economies, and the strengthening of capacities through a highly participatory and inclusive way, intervening at the landscape level, restoring and preserving forested and water recharge areas, riparian ecosystems, and sites of ecological connectivity; as well as promoting the transformation of the agricultural regions through the restoration of soil and vegetation and the implementation of sustainable practices. The Restoration Action Plan seeks to conserve and recover biodiversity, ecosystem services, and the main livelihoods of the population through restoration techniques targeted to climate change adaptation and environmental sustainability.

122. The project is also consistent with relevant sectorial policies, including the Climate Change Policy for the Agricultural Sector in El Salvador; the National plan for climate change and management of agro climatic risks for the agricultural, forestry, fishing and aquaculture sectors; the Environmental Strategy for Adaptation and Mitigation of Climate Change in the Agricultural, Forestry, Fisheries and Aquaculture Sector (EAAMCC), and the National Water Resources Strategy.

123. At the subnational level, the project is consistent with the Local Plan for Sustainable Development of the Conservation Area el Imposible-Barra de Santiago, which covers a 14-year period (2016-2030) and was constructed considering the local context, environment, threats, as well as feasibility analysis of the proposed interventions. The local plan includes the key actions, targets and monitoring strategies that were planned and agreed with local stakeholders. Local Plans for Sustainable Development were developed at a sub national level as a tool for strategic and participatory planning based on management, conservation and restoration actions framed in a landscape approach.

124. A description of these policies and planning instruments and relevant provisions in the context of the implementation of the project are included in the table below

**Table 6** - Description of policies, planning instruments, and relevant provisions in the context of the implementation of the project

Policy/planning instrument	Description and context for the project	Entity and year of publication
Five-Year Development Plan "El Salvador Productive Educated and Safe" 2014-2019	Recognizes that over-exploitation of natural resources and growing environmental degradation have increased the risk associated with natural disasters and the vulnerability to climate change effects. Establishes in its objective 7, that the country should transit towards an economy and society that is environmentally sustainable and resilient to climate change.	Government of El Salvador, 2015
National Plan for Climate Change of El Salvador - PNCC	Includes as its priorities the construction of a climate resilient and low carbon society and economy. It presents measures of adaptation, mitigation and reduction of risks in a framework of coherence, consistency and sustainability. It contains eight components focused on reducing risks and minimizing in the short term the human and economic losses that are already experienced in the country. Action 1 of Component 3, specifically aims to protect, rehabilitate and conserve existent ecosystems and improve their ecological functions. Component 4, focuses on the transformation and diversification of agricultural, forestry and agroforestry practices, recognizing the urgency for restoration of critical ecosystems for resilience.	MARN, 2017 (update)
Nationally Determined Contribution (NDC)	Includes as an objective the reduction of vulnerability in the agriculture, livestock and forest sectors, as well as the establishment and management of one million hectares through climate resilient and sustainable landscapes	MARN, 2015
National Environmental Policy of El Salvador	Aims to reverse environmental degradation and reduce vulnerability to climate change. Includes as one of its main components of action the restoration and conservation of ecosystems to reduce risks, sustain productive activities and ensure the well-being of the population.	MARN, 2012
National Strategy of Environment (ENMA)	Main environmental public policy instrument for government planning, recognizes that the over-exploitation of natural resources and the increasing environmental deterioration have increased the risk of natural disasters and vulnerability to the effects of climate change, which raises the need to have articulated and structured responses. It includes the restoration of rural areas as an approach for reduction of climate risk in the medium term.	MARN Council of Ministers, 2013
National Ecosystem and Landscapes Restoration Program (PREP)	In the context of the National Environmental Policy, the Restoration Program constitutes the main climate change adaptation program, seeking to direct MARN's existing projects and efforts to promote social, productive, institutional and financial adaptation. It has a main objective to promote the restoration of ecosystems, watersheds and rural landscapes as mechanism to ensure ecosystem services and the conservation of biodiversity as way to adapt to climate change impacts.	MARN, 2012
Action Plan for Ecosystem Restoration and Landscapes in El	Includes as its main objective to restore ecosystems and landscapes to facilitate the generation of ecosystem goods and services and its increased climate change resilience, improving livelihoods through institutional and	MARN, 2017

Policy/planning instrument	Description and context for the project	Entity and year of publication
Salvador with a mitigation approach based on adaptation 2018-2022	social strengthening and resource management. The specific objectives are: i) Strengthen community and institutional governance to allow the implementation and sustainability of the restoration processes; ii) Implement restoration instruments or sustainable production and recovery of ecosystem conservation areas; iii) Boost knowledge management in different levels to promote implementation of restoration practices. The Restoration Action Plan has been framed in the principles of informed and adequate participation, innovation, accountability, territorial planning and monitoring, solidarity, coordination and articulation.	
National Biodiversity Strategy	Recognizes that the environmental degradation and its drivers along with climate change, are the main threats to the country's biodiversity. It considers that reversing environmental degradation will not only improve the conservation of biodiversity but also will reduce the country's vulnerability to climate change. The Biodiversity Strategy has been articulated in three main axes: Strategic integration of biodiversity in the economy; Inclusive restoration and conservation of critical ecosystems; and Biodiversity for the people. The Inclusive restoration and conservation of critical ecosystems includes as priorities the mangroves and coastal ecosystems; rivers and wetlands; riparian forests and forest ecosystems.	MARN, 2013
Environmental Strategy for Adaptation and Mitigation of Climate Change in the Agricultural, Forestry, Fisheries and Aquaculture Sector	Its general objective is to contribute to the adaptation of the Agricultural, Forestry, Fisheries and Aquaculture Sector, enhancing its sustainability and competitiveness, increasing its capacities and decreasing its vulnerability to the effects of climate change with gender inclusion and equity. Includes four strategic objectives, including the sustainable management of natural resources, improvement of the resilience of productive systems, promoting knowledge management, and strengthening of institutional capacities.	MAG, 2015
National plan for climate change and management of agro climatic risks for the agricultural, forestry, fishing and aquaculture sectors.	Seeks to contribute to the adaptation of the impacts of climate change and variability to reduce agro climatic risk within the framework of the Climate Change Adaptation and Mitigation Strategy of the Agricultural, Forestry, Fisheries and Aquaculture Sector in the territory. It includes as part of the activities formulated in its action plan: the design and implementation of a program to build capacities on climate change and its impacts targeted to producers; promote the establishment of agroforestry systems and protection of forests that result in the restoration of the forest resources, reduction of vulnerability and generation of ecosystem services.	MAG, 2017
Plan for Agricultural Development 2014-2019	Integrated by a series of programs that include as their objectives the environmental restoration with emphasis on creating resilience and adaptation to climate change, the generation of employment and reduction of rural poverty, prioritizing women and youth and their contribution to economic growth.	MAG, 2015
Forest Policy for El Salvador 2016-2036	It proposes eight strategic axes, including the restoration of forest ecosystems; and reducing the vulnerability of the country's productive systems and ecosystems in the face of the impacts of climate change.	MAG, 2016

Policy/planning instrument	Description and context for the project	Entity and year of publication
National Forestry Strategy	Includes as part of its strategic components the restoration of ecosystems and increasing forest cover; protection and reduction of forest vulnerability; strengthening capacities of the stakeholders in the sector.	MAG, 2017
National Water Resources Strategy	Structured in three axes: 1) Water for life; 2) Water and Economy; 3) Water and Territory. Axe 1 includes food security as priority line, comprising of actions for climate adapted agriculture, strengthening agro-climatic monitoring and risk reduction. Axe 3 includes as a priority line the protection of watersheds and water ecosystems.	MARN, 2013
Local Plan for Sustainable Development of the Conservation Area El Imposible-Barra de Santiago	The strategies contained in the plan are integrated in the five following thematic components: 1) Water resource management, focused on improving ecosystems and the use of water resources through restoration and reforestation. 2) Use of best productive practices, focused on promoting the implementation of best practices in agriculture, livestock, agroforestry to improve ecosystem services, productivity and recover ancestral practices. 3) Governance, dialogue and interinstitutional coordination, including strategies to promote interinstitutional coordination between government agencies which includes communities in decision making processes for improving their livelihoods. 4) Economy promotion, to support the producers to improve their income through alternatives that add value to their products. 5) Control and Protection, focused on promoting the protection of ecosystems through strengthening of the legal enforcement.	MARN, GIZ, FIAES, 2016

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

125. The project complies with all applicable national legislation. The Constitution of El Salvador, establishes that it is the duty of the State to protect the natural resources (Article 117). The National Environmental Law establishes in its Article 50 that the MARN will elaborate the guidelines for the environmental zoning and land use; it also establishes the provisions for the management of soils and terrestrial ecosystems (Article 75) and the sustainable management of forests (Article 77). The project is consistent with the National Environmental Law and the relevant climate change and environmental legal framework (see Table 7).

**Table 7** Relevant legal instruments related to the Environment and Climate Change in El Salvador

Legislation / Policy	Description
National Environmental Law (MARN, 1998)	Develop the actions mandated in the National Constitution related to conservation, protection and restoration of environment to assure the sustainability and liability of livelihoods of population.
Forest Law (MAG, 2002)	Establishes the provisions for the increase, management and sustainable exploitation of forest resources, and timber industry development; ascertaining that the forest resources are part of the national patrimony and corresponds to the State its protection and management.

Legislation / Policy	Description
Natural Protected Areas Law (MARN, 2005)	Its objective is to regulate the administration, management and increase of natural protected areas to conserve biological diversity, ensure the well-functioning of essential ecological processes, and guarantee the maintenance of natural systems, through a sustainable management.
Seeds Law (MAG, 2001)	Establishes the regulation to guarantee genetic identity and purity, physical and sanitary quality of seeds, as well as its research, production and commercialization.
National Law of Territorial Planning (National Council of Territorial Planning and Development, Department Councils for Territorial Development, Municipal Councils, 2011)	Establishes the provisions that regulate the territorial planning and development processes. It aims to strengthen national capacity to organize the use of the territory and guide necessary public and private investments to achieve sustainable development.
Municipal Code (1986)	Develops the constitutional principles related to the organization, functioning and exercise of the faculties of municipalities

126. The project directly supports the implementation of the PREP and the Action Plan for the Restoration of Ecosystems and Landscapes (2018-2020), and will be implemented according to the Technical Guidelines for Restoration in El Salvador<sup>29</sup> that guide the implementation of these programs and constitute the standards that restoration activities in the country should follow.

127. The project will ensure that restoration activities are conducted under MARN standards, as the corresponding governing body. These include the adherence to the 49 restoration techniques developed by MARN, which provide the technical specifications to conduct the restoration activities, including information on the objectives, steps to apply the technique, and recommendations for its implementation and estimated costs. The project budgeted restoration actions per the applicable restoration techniques (agro forestry for basic grains and mixed systems with cacao and coffee, salvo pastoral systems, mangrove and riparian forests)

128. FIAES constitutes a financial entity to support environmental management, as stated in Article 11 of the National Environmental Law which identifies these types of financial entities as instruments for the execution of the National Environmental Policy. Under this regulation, all initiatives that are financed by FIAES should have an express approval from MARN to guarantee that they are consistent with the National Environmental Policy and its Strategy.

129. All planned activities will be implemented within the territorial jurisdiction of municipalities constituted and recognized by the Salvadorian law. With regard of tenurial and land rights, the project will only implement actions with land owners and public areas.

130. The project complies with the environmental and social principles as outlined in the Environmental and Social Policy of the Adaptation Fund as explained in section K.

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

131. In the development of this proposal the project has engaged with diverse stakeholders in the region including government ministries, community organizations and international development organizations to avoid duplication and ensure complementarity. This was of key

<sup>29</sup> Technical guidelines describe the steps, requirements, costs and benefits of the implementation of the restoration actions according to different ecosystems, including restoration on riparian forests and mangroves; restoration of productive coffee systems; implementation of agroforestry systems in basic crops; implementation of silvopastoral and agro-silvopastoral systems; implementation of cacao agroforestry systems; implementation of green harvest in sugar cane systems.

importance as there are various organizations implementing initiatives and activities in Ahuachapán due to its prioritization under the National Restoration Program and presence of various the conservation areas (i.e. El Imposible-Barra de Santiago, the Ramsar Wetland Barra de Santiago and the biosphere Reserve Apaneca- Ilamatepec).

132. For this purposes, MARN formed the Ahuachapán Partner Group as a consultive and coordinating mechanism in the region for development partners thus ensuring complementarity between development actors. UNDP acts as a technical secretariat to the group and convenes regular meetings that are attended by international development partners and NGOs with presence in the region. All initiatives to take place in the Ahuachapán area are presented within the group to ensure: coordination of investments and initiatives, monitoring within the whole region, the incorporation of best practices. Furthermore, all investment in the region are guided by the PLDS and the PREP and as such the group has developed agreed upon mechanisms for geographic and technical coordination and monitoring.

133. The present proposal was presented to the group during the project’s consultation process to ensure the incorporation of best practices, create synergies and complementarities to existing initiatives in the area. The barrier analysis included within the proposal has incorporated these and these have been addressed in the project design. Table 8 demonstrates the projects that have been ongoing in the area including potential synergies that will be addressed through the project.

**Table 8** – List and description of current interventions in South Ahuachapán

Project	Duration	Donor/ Implementing Agency	Outcome	Complementarity
Agrarian Landscape Restoration Initiative El Salvador	2018 – 2021	Fundación Buffet-CRS/PRISMA	Restore 25,000 ha of landscape in Ahuachapán based on Water-soil-agriculture approach.	<ul style="list-style-type: none"> <li>• Lacks a focus on climate change and adaptation</li> <li>• The project will produce baseline of hydric information in the southern part of Ahuachapán that will then be built upon through the UNDP/AF project (making the link to the aquifer).</li> <li>• UNDP/AF will add to the CRES project by ensuring the integration of the hydro analysis and modeling within national models.</li> </ul>
Regional Project for coastal biodiversity conservation	2018 – 2022	USAID-UICN/GOAL/CRC-URI UNES	Conservation and restoration of coastal ecosystems in lower basin of Río Paz	<ul style="list-style-type: none"> <li>• Includes restoration activities with a basin approach focused on biodiversity conservation.</li> <li>• This approach will be complemented by the AF/UNDP project by integrating the climate change adaptation focus and introducing restoration as part of a range of EBA measures.</li> <li>• Coordination and complementarity with the restoration activities under this project has been ensured.</li> </ul>
Intervention in the conservation area El Imposible Barra de Santiago	2018-2020	FIAES Ordinary call for proposals	Ecological restoration in El Imposible-Barra de Santiago conservation area	<ul style="list-style-type: none"> <li>• Restoration activities in the natural conservation area which has not been targeted by the AF/UNDP project.</li> <li>• Approach lacks a focus on climate change and adaptation</li> </ul>

Project	Duration	Donor/ Implementing Agency	Outcome	Complementarity
				that will allow for a complementarity in restoration activities.
Program for the Restoration of Forest Landscapes in Central America and the Dominican Republic (REDD+ Landscape)	2017-2020	German Cooperation - CCAD-GIZ	Landscape restoration in the conservation area El Imposible-Barra de Santiago and biosphere Reserve Apaneca-Illamatepec	<ul style="list-style-type: none"> <li>• Carbon capture initiative (REDD+)</li> <li>• Initiative is focused within a larger area of influence on carbon sequestration.</li> <li>• Currently lacking an analysis on the impact of climate change adaptation</li> </ul>
Adaptation - Vulnerability ECOSYSTEMS (AVE)	2018-2020	UICN-UNES	Develop a methodological framework based on evidence that determines the effectiveness, multiple benefits and overall profitability of the EbA	<ul style="list-style-type: none"> <li>• Complementary initiative in knowledge management and dissemination of EbA.</li> <li>• The UNDP/AF project will build on the methodological framework generated, particularly for the identification and articulation of actions to mobilize financing for EbA.</li> </ul>
Landscape Restoration Monitoring System		German Cooperation- MARN/PRISMA/ WRI	Monitoring the restoration actions in the conservation area El Imposible Barra de Santiago	<ul style="list-style-type: none"> <li>• Coordinating monitoring systems to include information from the restoration activities being developed at a national scale.</li> <li>• Proposed UNDP/ AF project will provide indicators to measure restoration impact on resiliency particularly as it relates to water flow and quality.</li> <li>• Information on the restoration actions implemented by the UNDP/AF project will feed into the national monitoring system</li> </ul>
Design of an Incentive Program to promote restoration and sustainable landscape management in El Salvador	2018-2020	German cooperation BMU/ CI- MARN/FIAES/ONU Environment	Promotion of incentives for producers in the area	<ul style="list-style-type: none"> <li>• Project is solely focused on establishing an economic incentive approach to promote sustainable investment.</li> <li>• Lacks a climate change focus and objective</li> <li>• Products will complement each other, particularly those within the proposed project to promote technological packages and market studies within the financial sector.</li> </ul>
Measures to increase climate resilience in the agroecosystems of the dry corridor of El Salvador (RECLIMA).	pending for approval	GCF- FAO/MARN	Resilience in agricultural sector in the Dry Corridor	<ul style="list-style-type: none"> <li>• GCF project will focus in a larger area covering the Dry Corridor. The interventions included in San Francisco Menendez, are limited to the transition areas near the conservation area of El Imposible, and are mainly implemented through planes de finca.</li> </ul>

Project	Duration	Donor/ Implementing Agency	Outcome	Complementarity
				<ul style="list-style-type: none"> <li>• Activities included in the UNDP/AF Project are complementary by focusing in areas critical for the sustainable management of Rio Paz watershed, and on the implementation of activities through community restoration plans (broader approach to planes de finca).</li> <li>• The UNDP/AF project includes additional activities focused on the mobilization of financing for EBA.</li> </ul>

134. The project has benefitted in its design from the information derived by the Partner Group in identifying gaps in projects currently being implemented and in validating the barriers listed in the project introduction and theory of change. This includes the lack of appropriation of knowledge by local authorities and the agricultural sector with information not being made available nor packaged for on the ground action as well as a lack of focus on climate resiliency as an important output and objective to restoration actions. This project will address these issue by working in transition areas in the municipality San Francisco Mendez where climate vulnerability due to its current land use, population size and location is higher. Coordination within the Partner group also allowed the project to identify information products (identified potential market chains, hydrology information products being developed by CRS, etc.) that the project will be able to build on to make them useful for adaptation purposes. It also allowed the project to identify governance gaps including the need to enhance municipal capacities for adaptive planning and territorial management. These are important barriers that the project will look to invest through the development of a local vulnerability assessment and adaptation plan to be referenced in municipal planning instruments with the support of the TAC.

135. The project during its implementation will continue to work within the framework of the Ahuachapán Partner Group by presenting the work that will be developed through the project and the information products that will be produced. It will also work with the group by providing information to enhance its indicators for the region. This will ensure that the work developed through the project is not duplicated by other development partners and that it creates the spaces needed to facilitate its use by partners in the region and ensure its upscale. The project will also work with the Partner Group in the internalization of the local adaptation plan to ensure that it is also adopted as a guiding mechanism for future development planning in the area. UNDP will present project results during the Groups’ meetings. In addition, MARN as the leading actor in this group will ensure that all actors are well coordinated to address the region’s various needs as identified through the National Restoration Plan and the local development plan. Finally, through the development of the TAC in component 4, the project is will facilitate knowledge transfer from development partners to local government authorities that have often been excluded from past project development.

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

136. The project generates knowledge management products across all of its four components that look to package best practices in an effective manner that facilitates upscale at a national level and is also relevant to stakeholders in a manner that can promote action thus enhancing the possibility of uptake in their use and promoting project sustainability. A key strategy to enhance

ownership and uptake includes working through existing regional channels while looking to enhance capacities of local associations and instances.

137. In the case of Component 1, Output 1.1 will package the methodologies and the information derived from community restoration plans into a larger map for territorial management within the targeted landscape. This will facilitate long term governance and also allow for community territorial management to be incorporated into local development plans and include community planning within a larger strategy for territorial management. The component will also invest in packaging the methodologies used for landscape restoration, investments for water management and productive planning so as to facilitate its replication in the region and nationally. This information will be made available to FIAES, MARN, MAG as well as local practitioners (through the Ahuachapán Partner Group, knowledge management workshops and events) and local governments through the TAC). It will also be included within the local vulnerability assessment and adaptation plans that will be developed in Output 4.2. This approach is innovative in that it goes beyond traditional *planes de finca* (farm plans) by incorporating the landscape as a whole and facilitating restoration within a larger framework of territorial governance and management that provides benefits beyond household units thus facilitating the capacity for landscape resilience. Through territorial investments, the approach also facilitates learning by doing while incorporating various stakeholders within the territory thus engaging them to understand the impacts of climate change and work in the development of ecosystem-based strategies for adaptation. The product generated through this output will be relevant for land planning at a municipal and community level.

138. Component 2 will generate knowledge in terms of adaptive productive practices that will foster diversified livelihoods. The information derived from this component looks to be actionable and will put in place strategies for its use and dissemination not only in San Francisco Menendez but within the region and other similar municipalities that rely on grain, livestock and sugar cane production. By looking to package and systemize information and best practices in adaptive production and local resilient seed varieties into technological packages, the project will promote the uptake of this information by local producers. It will also promote the longevity of culturally relevant practices while ensuring that the inputs are there for replication for example through the investment in a local seed banks that will be managed by communities with the support of the local CENTA. By promoting the inclusion of local actors, the project is ensuring the long term sustainability of the knowledge generated and its applicability in the region itself.

139. Investing in systemizing productive information in agricultural packages and market studies ensures that information derived from the project is presented in a manner that is relevant for productive purposes and can be easily exported to other regions by MAG extension officers. The project will also invest in training and extension to key sectors targeting extension officers, cooperatives (including all 16 women productive cooperatives) and productive associations using them as key actors to promote dissemination beyond San Francisco Menendez. Output 2.2 will package scientific knowledge of adaptive productive practices and products and tie in knowledge on market potential and entry points for enhanced livelihoods that will be profitable and resilient to climate change. This will be done through the development of market studies with identified entry points into high value market chains. The derived information from the market studies will be promoted to productive associations with funds set aside for capacity building and implementation. It will also be presented to financial institutions thus indirectly mobilizing funds for these new diversified products. The inclusion of representatives of the Banco de Fomento Agropecuario in the planning of these products will ensure that the results can be linked to the mobilization of financing and will also present an opportunity for local financial institutions to become familiar with these new products. Information derived from Component 2 will be made available to the MAG, local producers and cooperatives, financial institutions and development practitioners. This will be done, through workshops, the publishing of the market studies themselves to be presented through events targeted at productive organizations, and the incorporation of the technical packages in relevant institutions such as CENTA and MAG. In addition, dissemination will also be made through UNDP's communication channels including a project portal to be incorporated within UNDP's adaptation site.

140. Component 3 will address a main barrier that has been identified in terms of the lack of community knowledge regarding climate change and its impact on water availability in the region. The project will hence invest in developing better models for understanding the relationship between climate change and the national landscape. A key instrument for monitoring and knowledge management will be the set of indicators that will be developed through the project to measure the impact of restoration on EBA, this will be integrated into the monitoring system developed for the PREP and hence available to all government actors involved in restoration activities.

141. Information products under component 3 will include the modelling of the common aquifer, an assessment of the hydrological flow of the Rio Paz, a Climate Atlas for the region, and the enhancement of existing early warning and climate information products (drought and flooding alerts, agricultural bulletins) that will benefit from enhanced local observation systems and the use of remote sensing technology that will result in more reliable and complete localized information being disseminated. Products will be developed by the Observatorio Ambiental and will be disseminated via national and local channels including early warning systems through the Office of National Civil Protection, productive organizations and civil population. These channels allow for wide dissemination although often fail to provide site specific information, hence the investments made through the project will prove to be critical.

142. The project will also work with women within the intervention areas to effectively monitor the climate information being collected and make use of it and the products derived from them, this will be done through capacity building with the support of the Observatorio Ambiental. The project will in turn invest in enhancing the capacity of the Observatorio Ambiental to develop at least 5 new climate products that are relevant for the region to manage risk. Uptake of these products will be complemented by targeted trainings directed at government and non-government partners on incorporating climate information into planning, policies and activities. The Climate Change Atlas, will be an important tool for local stakeholders to understand and make visible climate change projections in the area and how they will impact natural resources in the territory, in particular water. This product will be presented to municipal governments, MARN and MAG as well as development partners (through the Ahuachapán Partner Group to inform development plans) and will be made available through the Observatorio's web portal to ensure broad access.

143. Component 4 will invest in knowledge management to streamline local adaption in municipal planning instruments and generating the capacities within local and national relevant organizations in the region to identify potential adaptation projects and provide them the means to attract climate finance from various sources. Hence knowledge management in this component looks to generate an enabling environment for adaptive planning and resource mobilization for its implementation by various stakeholders. This will include the development of a Vulnerability Assessment and a Local Adaptation Plans that will be developed and presented to national and local authorities and will be presented through local events and via the Ahuachapán Partner Group meetings and through the mechanisms identified in the project's stakeholder engagement plan. These will also be made available within UNDP's climate portal as well as in MARN's website.

144. The creation of a technical working group (TAC) in the Association of Municipalities will also directly build in municipal capacity to manage the information derived from the various interventions within the territory and its information products. The TAC will hence become a key figure for the dissemination and incorporation of information derived from the project into local governance and community plans in this manner providing the technical input that municipalities often lack when approving licenses for projects or to interpret information derived from restoration and land management projects. Through the TAC, a key gap in past projects will be addressed in ensuring that knowledge management is able to flow into local governments.

**H.** Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender

considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

145. The series of consultations conducted during the project preparation were aimed at engaging key stakeholders in the project design, for them to take ownership of the project's goal and objectives, provide feedback on the full project proposal, and ensure their buy-in and commitment to project activities. The consultation process was conducted building on the extensive experience of MARN and other partners in developing participatory processes in the region, and was framed in the following principles: i) Promote the inclusive participation and engagement of the key stakeholders at the national, regional and local level, recognizing the characteristics and needs of the different stakeholders; ii) Facilitate dialogue and sharing of information among stakeholders; iii) Provide adequate information; iv) Include gender considerations.

146. The consultative process had two main phases. The first phase, conducted during the preparatory process of the project proposal (concept development), consisted of initial consultations with key stakeholder groups to better understand the challenges posed by climate change in the region and its effects in local livelihoods; consolidate the stakeholder analysis; define the intervention area; and gather inputs from international and national organizations working in environmental, development, or climate change initiatives in the region. The second phase was developed during the preparation of the complete project and included several activities with a wide range of stakeholders. The activities conducted in each phase as well as their outcomes are described below.

#### **Initial consultations (concept development)**

147. During this phase, the project team carried out a number of meetings with government institutions, civil society organizations, local representatives and organizations; women associations and international organizations and cooperation partners working in south Ahuachapán to ensure that the project design targeted adaptation strategies aimed to address the main barriers in the region and local needs to adapt to climate change. This phase included as main activities:

**a. Meetings with national organizations and government institutions.** The project team conducted several meetings with national and international institutions whose involvement and experience was key for the design and implementation of the project, including the Ministry of Agriculture, the *Observatorio Ambiental* in MARN, FIAES, and CRS.

**b. Meeting with cooperation partners and international initiatives working in the region.** The meeting was conducted with the Ahuachapán Partner Group to discuss the project idea, its scope and expected outcomes, as well as to develop a gap analysis that would allow for complementarity between the proposed project and other initiatives in the region.

**c. Meeting at the local level with stakeholders from San Francisco Menendez and field visit.** The meeting engaged local actors in the municipality of San Francisco Menendez, including representatives of women organisations, local water and Ramsar committees, farmers, municipal authorities, CENTA, and local schools. The objective of the meeting was to understand the local perceptions of climate change effects in the region, the main challenges experienced at the local level and activities that could help address these challenges. The meeting was complemented with a field visit to the lower Rio Paz watershed.

148. The initial consultations provided inputs for the definition of the project logical framework and project intervention area; consolidation of the climate analysis and diagnosis; identification of adaptation strategies targeted to the main drivers of climate change in the region; identification of the key stakeholders; and implementation arrangements, leading to a document prepared with a high degree of participation of experts from different institutions. Table 9 includes information of the participants on this phase of the consultations and main issues addressed. Additional information on the initial consultations is provided in Annex C.

## **Consultation of the project proposal**

149. The second phase of the consultative process was focused on obtaining inputs and feedback on the project proposal in order to consolidate the definition of the project intervention area; define direct and indirect beneficiaries; and the roles and engagement of the key stakeholders in the implementation of the project. A stakeholder analysis was conducted to identify and characterize the key stakeholders for the design and implementation of the project, as well as for the consultation process<sup>30</sup>. The key stakeholder list for the consultation at the territorial level was further refined in collaboration with MARN and FIAES. The stakeholders were invited by phone, letters and in person, through MARN personnel in the territory. The second phase of the consultations included the following activities:

### **a. Territorial consultation workshop**

150. A consultation workshop was held at the municipal level with local stakeholders to receive their feedback and inputs on the project design, including the proposed project strategy, components, and expected outcomes. The discussions and review of the project proposal provided important inputs and local contributions to create consensus regarding the project intervention area, its goals and activities. Participants included representatives from Civil Society Organizations; National and Municipal Government; extension organizations; water committees; producer associations; women, farmers, and local networks (see Table 9).

151. The consultation workshop sought to promote dialogue and reflection among participants using participatory planning tools. Participants were divided in groups to enable rich discussions, allowing project proponents to better understand the perspectives of the different stakeholder groups. The workshop also included discussions in plenary to inform all workshop participants and to promote dialogue between stakeholders with different interests and concerns. The workshop consisted of the following activities:

- Introductory presentations. The purpose of the introductory part was for the participants to learn about the project proposal: its objectives, components and expected outcomes and outputs, as well as their own roles in achieving the objectives. The introductory presentations included an introduction of the project objectives, a presentation on climate perspectives and explanation of the project proposal (theory of change, components, activities and expected results).
- Developing local maps. During this activity, the workshop participants identified the changes in the region related to changes in climate, as well as local actions occurring in the territory that are not sustainable. To conduct this activity, participants were integrated in the following groups: 1) Water Committees; 2) Women; 3) Local producers; 4) institutions and organizations implementing activities in the region. During the plenary session, each working group gave a presentation on the results obtained.
- Analysis of issues of each component. Participants worked to assess whether the Project proposal adequately meets main problems related to climate change in the target area. Participants were provided with printed materials with the project's theory of change, components, activities and expected outcomes, drafted in simple language to facilitate the analysis. The main recommendations that resulted from this analysis include: a) to increase the intervention area to include all the territory in the municipality; b) ensure that the stakeholders consulted continue being engaged in the project implementation; c) consider activities to strengthen local governance; d) implement the project building on the efforts being developed in the area by the local organizations, institutions and associations.

152. A detailed description of the workshop, main findings, the stakeholders that participated and their roles at the territorial level are included in Annex C.

### **b. Consultation with indigenous peoples**

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<sup>30</sup> The stakeholder analysis and the stakeholder matrix are included in the Environmental and Social Management Plan developed for the project.

153. Although no self-determined Indigenous Peoples were identified in the project area, consultation was deemed appropriate as Indigenous Peoples in El Salvador have been historically marginalized and as a result, the majority are immersed among the urban and rural populations in the country. For this reason, the project team carried out a meeting with representatives of the Salvadorian National Indigenous Coordinator Council, which integrates the National Table for dialogue (*Mesa Nacional Indígena*) and constitutes a platform for dialogue and participation between MARN and indigenous representatives (the list of participants is included in Annex C).

154. Indigenous representatives were invited in advance to the consultation meeting, contacted by phone by the MARN' indigenous peoples liaison, who informed them of the objectives of the meeting, and asked about their willingness to participate.

155. The consultations confirmed that there are no self-determined indigenous communities in the project intervention area or its area of influence, as the closest indigenous communities identified are in the Santo Domingo de Guzmán municipality (located in the Sonsonate Department), which is adjacent to the municipality of San Pedro Puxtla. It also revealed the interest of the Indigenous representatives to be engaged during project implementation to promote cultural preservation and indigenous knowledge of natural resource management, specifically in the application of relevant ancestral/traditional techniques (e.g. cultivating on terraces, using traditional plant varieties) and in the promotion and sharing of knowledge on local seeds – a work that has been previously developed between the Mesa Nacional Indígena and MARN. The IP representatives stated their conformity with the project.

156. The consultation provided recommendations that have been integrated in the project design. It also provided inputs for the stakeholder engagement plan that includes activities to promote the participation of indigenous peoples through the *Mesa Nacional Indígena*.

**c. Consultation meeting with government representatives and development partners.**

157. These meetings were conducted to present the project to key government institutions and development partners and facilitate a space for feedback on project activities, identify synergies and potential collaboration during project implementation. A specific meeting was conducted with representatives of MAG and the state bank for agricultural promotion (Banco de Fomento Agropecuario – BFA) to receive their comments and feedback on the project proposal, discuss their participation and engagement in project activities, as well as coordination arrangements for the implementation of the project (see Annex C).

**d. Consultation with Municipal Authorities**

158. The project promotes the participation of municipalities to strengthen their capacities, climate change knowledge and local governance. Thus, a consultation meeting was conducted with the environmental units of Jututla, Guaymango and San Francisco Menendez to present the project proposal, receive inputs and feedback, and discuss the interest and willingness of the municipal authorities to support and participate in the project implementation. According to the Municipal Code, these units are responsible for the implementation of the environmental agenda at the local level. Meeting summary is included in Annex C.

**Table 9-** Summary of the stakeholders consulted for the development of the project proposal

Phase and consultation activities	Entity or person consulted	Type of Entity	Issues Addressed
<b>1. Development of the Concept (Initial consultations)</b>			
Meetings with national organizations and government institutions (April 2018)	MARN/Minister	National Government	<ul style="list-style-type: none"> <li>Project scope and objectives</li> <li>Link to the National Restoration Program and other MARN initiatives</li> <li>Discussion on overall structure of the components</li> </ul>
	MARN/ Office of the Minister	National Government	<ul style="list-style-type: none"> <li>Project scope and objectives</li> <li>Analysis of components 1, 2, 3, 4</li> </ul>

Phase and consultation activities	Entity or person consulted	Type of Entity	Issues Addressed
	FIAES	National Organization/ Fund	<ul style="list-style-type: none"> <li>Project scope and objectives</li> <li>FIAES experience in the region</li> <li>Potential implementation arrangements</li> <li>Analysis of components 1, 4</li> </ul>
	GIZ	International organization	<ul style="list-style-type: none"> <li>Project scope and objectives</li> <li>Complementarity with GIZ initiatives in the region</li> <li>Analysis of components 1, 2</li> </ul>
	CRS	CSO	<ul style="list-style-type: none"> <li>Analysis of components 2, 3</li> <li>Hydrological study conducted in the region</li> </ul>
	USAID	International cooperation	<ul style="list-style-type: none"> <li>Project scope and possible synergies</li> </ul>
	MARN/ Observatorio Ambiental	National Government	<ul style="list-style-type: none"> <li>Analysis of meteorological and climatic information for the project area</li> <li>Capacity needs</li> <li>Monitoring and evaluation of project activities</li> </ul>
Meetings with development partners (March 2, May 18, 2018)	Ahuachapán Partner Group	International development partners with projects in the region	<ul style="list-style-type: none"> <li>Analysis of project scope and all components</li> <li>Gap analysis to identify project complementarity</li> </ul>
Meeting at the local level (April 12, 2018)	RAMSAR Committee	Local association	<ul style="list-style-type: none"> <li>Climate change effects in the region and challenges to local livelihoods</li> <li>Intervention area</li> <li>Project scope and objectives</li> </ul>
	COAL	Regional association	
	ACEPROS	Community Association	
	Local Police	Municipal government	
	Cara Sucia	Communities representative	
	CECCAS	Local school/teacher	
	ADESCOS	Community organizations	
	CENTA	National Government/ MAG extension services	
	Tamasha	Local farmers	
	ROLA	Local environmental observation network of the Conservation Area El Imposible-Barra de Santiago	
	Microcuenca El Aguacate	Water committees	
	MARN/regional office	National Government	
	Municipal authorities	Municipal Government	
Civil Protection Municipal Committee	Committee installed by Civil Protection Law (National institutions in San Francisco Menendez Municipality: Police, Education, Health, Environment)		
<b>2. Consultation of project proposal</b>			
Territorial consultation workshop (June 21, 2018)	ACEPROS	Community Association	Project scope and objectives Selection of project's target area.
	ISDEM	Salvadoran Institute of Municipal Development	
	ADICOS	Productive association	

Phase and consultation activities	Entity or person consulted	Type of Entity	Issues Addressed
	CRS	CSO	Review of project document and feedback Analysis of components 1, 2, 3 4
	MARN	National Government	
	AMBAS	Women organization	
	MAG/DGFCR	National government	
	Mesa Técnica Foro del Agua	The Water Forum (Foro del Agua) is permanent platform comprised of more than 50 organizations and institutions that coordinate to impact in the efficient, equitable, and participative water management.	
	Asociación de Microcuenca	Water committee/watershed association	
	ACOPAPCOM	Community organization	
	CASSA	Private sector – sugar company	
	ADESCONE	Community organization	
	ACURHCASSPEB (Asociación de Cuenca de la Región Hidrográfica Cara Sucia – San Pedro Belén)	Organization platform and advocacy on issues related to local environmental management	
CENTA	National Government/MAG extension services		
Health Ministry (MINSAL)/ Health Department of Cara Sucia	National Government		
Farmers and local producers	Local farmers and producers		
Meeting with Indigenous Peoples Representatives (July 10, 2018)	Salvadorian National Indigenous Coordinator Council (CCNIS)/ Mesa Nacional Indígena	Indigenous Peoples Representatives	<ul style="list-style-type: none"> <li>• Project scope and objectives</li> <li>• Analysis of components 1, 2, 3 4</li> <li>• Possibility of indigenous representatives' engagement in the project</li> </ul>
Meetings with national organizations and institutions	FIAES (July 9, 2018)	National Organization/Fund	<ul style="list-style-type: none"> <li>• Implementation arrangements</li> <li>• Feedback to the project proposal and components 1, 4</li> </ul>
	Meeting MAG and BFA (November 12, 2018)	Government and national development bank	<ul style="list-style-type: none"> <li>• Feedback to the project proposal, define their participation and implementation arrangements to promote coordination with the agriculture sector</li> </ul>
Meeting with municipal authorities (November 15, 2018)	Environmental Units of the municipal governments of San Francisco Menendez, Guaymango, Jujutla	Municipal Governments	<ul style="list-style-type: none"> <li>• Feedback to the project proposal with a specific focus on components 3 and 4</li> <li>• Discuss the interest and willingness of the municipal authorities to support and participate in the project implementation</li> </ul>

## Key findings and outcomes from the consultative process

159. The consulting process helped to clearly identify the roles and responsibilities of the principal participants in the project, to guarantee their full knowledge regarding the formulation of the project and its objectives, building on the experience and capabilities of the participants in the definition of the project strategy and activities.

160. The territorial consultation workshop successfully identified local stakeholders and laid an important foundation for project implementation. It was crucial to adjust the project outputs and activities to local needs, including the redefinition of the target area and beneficiaries. This workshop also allowed to confirm the barriers hindering resilience to the main climate change impacts in areas with an ongoing effect in communities and livelihoods. Based on consensus reached during the consultation workshop, the adjustment of the project area resulted in the incorporation of the Municipality of San Francisco Menendez for the restoration activities, and expanding the scope of components 3 and 4 to the municipalities of south Ahuachapán focused mainly on enhancing territorial governance. These changes supported a more coherent approach to water management as the four municipalities share the same aquifer.

161. The work conducted by the groups in the territorial consultation workshop allowed for a comprehensive understanding of different needs and perspectives of stakeholder groups. The conclusions derived from the group of women reflected the need and interest of women to undertake productive diversification activities. Hence, the project included specific activities targeted to women producers, focused on developing a productive technological package considering women's experiences and needs; as well as the training of 16 women cooperatives.

162. The consultation with indigenous peoples' representatives provided important recommendations that were integrated in the project design, including the incorporation of specific criteria in the call for proposals to implement restoration activities and development of local community plans to promote within the restoration the use of native species with ecological and nutritional value and avoiding the use of invasive species. The project activities will build on the work that MARN and the Mesa Nacional Indígena have jointly developed in identifying seeds used in ancestral and traditional practices. This work will also provide inputs to the development of productive technological packages.

163. The consultations conducted with Civil Society Organizations and development partners supported the project team to target the project to additional and complementary activities, that address the main drivers of climate change in the region, supporting mainstreaming of adaptation that could lay the foundation for future initiatives. The consultative processes provided important inputs for the development of the Stakeholder Engagement Plan and Gender Action plan.

164. The consultations with MAG and BFA allowed the consolidation of activities in component 2 while confirming their participation and define implementation arrangements. As a result of this consultation, the project spells out clearly the activities in which MAG will be involved to promote coordination between the environmental and agricultural sectors.

165. The meeting with the municipal authorities allowed to define the association of municipalities as the governance platform to be supported through component 4 as well as discuss the specific activities with participation of the municipalities. Through this consultation, the environmental units of the municipalities expressed their interest to participate in the project and support its implementation.

**Table 10** Summary of the main findings of the territorial consultation workshop

<b>Group</b>	<b>Views and recommendations</b>	<b>How views and recommendations are integrated in the project proposal</b>
<b>Territorial consultation workshop</b>		
Water committees	The main concerns expressed by this stakeholder group was	Included in component 1 and 4 of the project. Component 1 includes forest landscape

	that it was important to protect and reforest the high part of the basin, and focus on the restoration of the riparian forests, promote agroforestry and silvopastoral systems, as well as coordination between MARN, MAG ADESCOs and the Water Committees. They also expressed the importance of restoring water flows, increase the mangrove area as well as territorial planning	restoration targeted to the high, medium and lower parts of the basin, as well as a strong focus on integrated water management, and the implementation of agroecosystems and silvopastoral systems. It also includes identifying key actions for water management and for potential ecosystem-based adaptation initiatives, as well as mapping interventions created within the community restoration plans, to identify areas that have been prioritized for restoration and for productive management. Activities to strengthen local governance and coordination have been included in component 4.
Women	The main concerns expressed include the loss of riparian forests, pollution of soils, aquifers and rivers, unsustainable water use, expansion of livestock activities, deforestation, and pollution from agrochemicals used for sugar cane production. To address these problems in the region, they proposed the implementation of agroforestry and silvopastoral systems, water storage and uptake, provision of incentives to avoid the transformation of coffee or other crops to grasses or sugar cane production, provision of productive alternatives, strengthen legal enforcement and coordination between MARN and MAG.	The project includes implementation of agroforestry and silvopastoral systems (component 1), enhancing capacities for sustainable water management (component 1), identification of resilient crops and practices (component 2), strengthened monitoring capacity (component 3), improved institutional coordination and governance and supporting local actors in identifying legal and governance strategies to enhance sustainable land management, including through law enforcement (component 4).
Farmers and local producers (basic crops, sugar cane and vegetable producers)	The main concerns expressed by the group were associated to water availability and use, as well as changes in rainfall and water flows. As solutions to address these problems they recommended that restoration activities included live fencing, activities to restore water flows, desilting, and improve seed varieties that are resilient to climate.	Restoration activities targeted to improve water management and recover ecosystem services will be implemented through Component 1. Component 2 includes activities for the identification of climate resilient local seed varieties that can provide alternative productive livelihoods for the region.
Institutions and organizations working in the area	The group mentioned as a main problem in the area the excess of water on rain season and its scarcity on drought periods. They identified the loss of forest cover and increased plagues as an important challenge in the upper part of the basin. The main challenge identified for the mid part of the basin was associated to basic crop production and food security as well as the need to promote productive	Component 1 includes restoration activities in different natural and productive ecosystems and will target the upper, middle and lower part of the watershed. Component 2 seeks to identify alternative resilient livelihoods and includes the provision of training to extension officers. Component 4 seeks to strengthen territorial governance and coordination.

	diversification activities. They mentioned the need for public policies to be coherent with an approach for sustainability and for strengthened technical assistance.	
<b>Indigenous representatives</b>		
Meeting with the Mesa Nacional Indígena	While there are no self-determined indigenous peoples in the intervention area, the indigenous representatives expressed the importance of promoting cultural preservation and indigenous knowledge of natural resource management, specifically in the application of relevant ancestral/traditional techniques, and their interest in sharing of knowledge on local seeds.	<p>Component 1 includes the incorporation of specific criteria in the call for proposals to develop and implement restoration activities through community restoration plans to promote that the restoration in productive landscapes favours native species with ecological and nutritional value, avoiding the use of invasive species.</p> <p>The project activities to be developed in component 2 to establish seed banks and develop technological packages will build on the work that MARN and the Mesa Nacional Indígena have jointly developed in identifying seeds used in ancestral and traditional practices.</p> <p>Activities to promote the participation of indigenous peoples through the <i>Mesa Nacional Indígena</i> have been included in the stakeholder engagement plan as part of the ESMP.</p>
<b>National and municipal government</b>		
Meeting with MAG and BFA	<p>The meeting revealed the interest of MAG to gain knowledge of the aquifer to better understand the sources of water and its use.</p> <p>MAG representatives expressed that it would be important to include the economic aspect in the planning of adaptation activities, as well as strengthen technical assistance to enable future credits, and articulate institutional efforts between development banks, and environmental and agricultural institutions. They recommended to strengthen and make more visible the role of MAG in the proposal.</p>	<p>The role of MAG was strengthened and made more visible in the project activities as well as in the implementation arrangements. Specifically, in component 1, participation of MAG was included in the Commission of Evaluation that will be established to assess and monitor development and implementation of community restoration plans.</p> <p>In component 2, MAG will support the identification and systematization of productive alternatives to increase resilience; provide feedback for the development of technological packages and support their dissemination; and provide inputs and advise in the establishment of seedbanks.</p>

Meeting with municipal authorities	The representatives of the Environmental Units of the South Ahuachapán Municipalities expressed their interest to support implementation of the project activities in component 4. They recommended to strengthen the association of municipalities of south Ahuachapán (Microregión Sur) as a platform to strengthen local governance. They also expressed their interest to be active participants in planning processes.	Component 4 seeks to strengthen governance at the local level by enhancing the capacity of municipal authorities to manage technical information, while ensuring coordination for adaptation planning.  A technical advisory council at the territorial level (TAC) will be established to improve coordination and dialogue between institutions and associations acting locally. This working group will work to support the association of municipalities of Microregión Sur as a potential clearing house on sustainable landscape interventions within the area, thus enhancing coherence and coordination to facilitate EBA actions at a municipal level. In addition, a participatory planning process will be conducted in close coordination with the municipalities to develop an adaptation plan for South Ahuachapán.
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I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

166. The project will invest in solutions to address the barriers identified during the project design. These barriers were validated during the stakeholder consultation process as the main challenges hindering resilience to the main climate change impacts in the region, with an ongoing effect in communities and livelihoods. Investments in the region have not dealt with these baseline issue. Barriers include: unsustainable management of ecosystems; lack of capacity of producers to identify alternative climate resilient productive options; lack of information and knowledge on climate change as it will impact the region and a lack of governance capacity. The project through its design will address these by building upon existing capacity on environmental management, the existence of local organizations and the lessons learned generated through various interventions in the area. Activities will also be integrated within the PREP being developed and implemented by the government to provide a case study of landscape restoration as an EBA strategy linking interventions with impacts on climate resilience in the territory. See below the theory of change for the project through its various interventions:

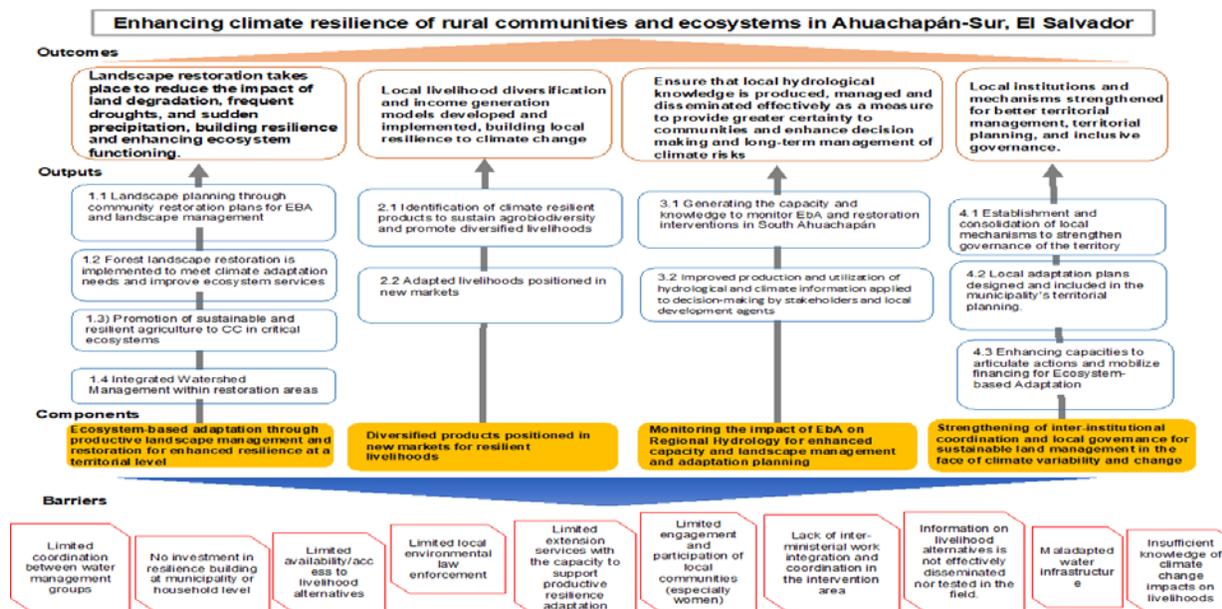


Figure 21 – Theory of Change.

Table 11 – Justification for project funding requested

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
<b>1. Ecosystem-based adaptation for enhanced resilience at a territorial level</b>		
Output 1.1 Landscape planning through community restoration plans for ecosystem based adaptation and landscape management	<p>While investment in restoration has been made, it has failed to address a landscape planning approach that is needed and has left out areas where productive activity has been occurring (transition areas). When sustainable production is addressed it takes the form of a <i>plan de finca</i> approach which also fails to address the various topographies and actors that exist within the greater landscape (interplay between critical ecosystems downstream). This generates a lack of awareness on how the landscape interacts and often generates conflict among land users. More importantly it does not allow for the EBA approach that is needed.</p> <p>At a landscape level, no mapping nor systematization is made of best practices. Restoration methodologies are not localized hence interventions by community organizations to enhance sustainable landscape management remain as pilots without developing indicators or measuring their impact in generating climate resiliency. Little capacity for measuring and upscale is produced. No link is made to municipal scale planning.</p>	<p>Community restoration plans are enacted that will serve as a community agreement to landscape management, hence enhancing community ownership and capacities for effective land management and governance. Communities understand the link between sustainable land management and climate resiliency through targeted monitoring of landscape interventions.</p> <p>Information derived from community restoration plans is packaged to enhance upscale and allowing for community management agreements be incorporated into landscape planning for management for climate change by the municipality of San Francisco Menendez and other actors in the area (MARN, MAG, local organizations, producers).</p>
Output 1.2 Forest landscape restoration is implemented to meet climate adaptation needs and improve ecosystem services	<p>While investment has been directed through the PREP for restoration in the Ahuachapán department, investments are mainly focused in forest restoration for biodiversity or conservation purposes. These have often failed to address key drivers of degradation thus failing to incorporate a larger landscape approach to the restoration of ecosystem based services needed for EBA and to generate the community capacities in adaptation which are needed as a long term strategy and management approach to climate change.</p>	<p>Communities understand the link between sustainable land management and climate resiliency through landscape interventions prioritizing critical ecosystems, thus generating capacities to proactively manage climate change. By adopting a landscape approach, drivers of degradation are addressed within a larger approach thus targeting the various topographies within the region.</p>
Output 1.3 Promotion of Sustainable and Resilient Agriculture to Climate Change in critical ecosystems (reducing land degradation and	<p>Restoration is implemented without taking into account areas under productive management thus limiting community buy in and generating conflicting strategies among productive and conservation actors at</p>	<p>The promotion of better landscape management that serves local agriculture and the other inter-related needs from the landscape (ecosystem services, protection of biodiversity, local livelihoods, human health and</p>

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
maximizing benefits of ecosystem services)	<p>a territorial level and affecting the sustainability and impact of restoration investments.</p> <p>Pilots in agroforestry and silvopastoral systems are continued at a limited scale by some local organizations without generating community buy in. Where investment on sustainable productive management is made it is done at a pilot level, with information not being packaged nor collected effectively.</p>	<p>well-being) is introduced as an adaptation strategy. Hence, increasing buy in from productive stakeholders and facilitating areas currently used for production to be sustainably managed in order to promote local resilience to climate change by avoiding land degradation, improving hydrology, habitat, water quality, erosion and sedimentation rates.</p> <p>Improved land use management benefits small and large scale productive systems thus, improving ecosystem resilience and acting as soft infrastructure against climate extreme events such as drought and excessive run off from sudden intense precipitation events.</p>
Output 1.4 Integrated Watershed Management within Community Restoration Plans	<p>Investments at a watershed level are made without a landscape focus thus fragmenting impact and not providing a link to climate change and adaptation. Water committees are neglected as key actors within restoration actions thus limiting sustainability of interventions and capacity to lead and generate EBA investments or compensation mechanisms. Conflict on water use and access continues as little capacity is created in linking investments on the ground to water sources and availability in the future.</p>	<p>Landscape management directly feeds into impact on watershed management thus linking restoration interventions in the protection and management of water as a natural resource whose quality and access has been affected as a result of climate change. Community water committees become key actors in managing the impact of climate change on water thus creating a wider understanding and capacities on implementing landscape management as an effective means for adaptation. Capacity building also creates a larger understanding on how interventions at a landscape level affect availability of water resources in the face of climate change, thus generating the means to enhance buy in and corrective management by all actors.</p>
<b>2. Alternative and adapted livelihoods identified and made viable for resilient livelihoods</b>		
Output 2.1 Identification and promotion of climate resilient products to sustain agrobiodiversity and promote diversified livelihoods	<p>Investments made to enhance productivity in the region fail to address climate change as a main factor in reducing viable livelihood options in the region thus reducing producers' capacities to manage the impact of drought and sudden precipitation in losses to primary production. Investments hence fail to provide a sustainable solution to long term productivity in the region.</p> <p>Small scale producers continue being reliant on seeds provided through traditional agricultural sectors that have yet to consider climate change resiliency. This in turn increases</p>	<p>Investments through the project deal with the main underlying issue affecting long term productivity in the region, thus producing viable options for climate resilient livelihoods. These are packaged with knowledge on resiliency to climate stress (risk reduction), costs and production being systematized in a manner to enhance uptake by producers.</p> <p>Community seed banks favouring native species are created to provide self-sufficient and self-reliant alternatives to farming communities while prizing resilience to climate change impacts thus providing direct</p>

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
	<p>producers' cost of production and their risk of failure due to climate change impacts.</p> <p>Information and results from pilots on sustainable productive management are not systemized in manner that can be promoted for larger upscale or uptake by MAG and productive stakeholders.</p>	<p>contributions to food and income security.</p> <p>Extension support is provided within the municipality thus enhancing the implementation of sustainable productive management at a territorial level. MAG extension officers are aware of sustainable alternatives increasing buy in and generating capacities of producers to adapt to climate change.</p>
<p>Output 2.2 Diversified livelihoods have access to new high value markets</p>	<p>The government (MARN) is investing in a project to identify economic incentives for sustainable productions however, these incentives will need to compensate for subsidies and support provided through traditional agricultural services and financial actors that have invested in business as usual approach to agriculture in the region without addressing long term risk. As the economic incentives will not be coupled with information useful to MAG and traditional agricultural producers, these will not be enough to compensate existing government support provided to traditional agriculture.</p> <p>Small producers will continue to have difficulties to integrate into value chains, and tap into the national and international markets to facilitate viable alternative livelihoods. Additionally, financial services institutions will continue to lack the capacity to finance non- traditional agricultural products due to lack of technical information. These will not be promoted through traditional extension services who, thus not allowing for the introduction of alternative livelihoods and in fact limiting productive investments to traditional practices that are not resilient to climate change nor generate conditions for sustainable environmental management.</p>	<p>Climate resilient products are identified and integrated within crop/livestock systems thus improving livelihoods by facilitating their introduction to high value chains and providing economic incentives that accelerate local economic resilience to the effects of climate variability on local productive sources. Through the information developed on market access (2.2) of the products identified by 2.1, financial instruments and mechanisms relevant for productive development can be developed to ensure financial and climate sustainability of diversified livelihood options and becoming in itself an incentive for the adoption of diversified productive practices.</p> <p>Investment in this output will result in greater livelihood diversification that widens communities' options, reduces reliance on particular natural resources, encourages spatially diverse transactions and builds local capacity to adapt livelihoods to climate change projections.</p>
<p><b>3. Regional Climate and Hydrological Monitoring for Enhanced Adaptation Planning</b></p>		
<p>Output 3.1 Generated the capacity and knowledge to monitor EbA and restoration interventions in South Ahuachapán</p>	<p>While CRS has been investing in a project to better gauge the available hydrological resources in the region, these will not take into account climate change projections nor will a deeper understanding of aquifer dynamics be researched. This will</p>	<p>The enhanced capacities from the National Observatorio will allow the generation of information to feed indicators linking EBA to impact in climate resiliency particularly on its impact on surface and underground water management.</p>

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
	<p>result in a static model that does not address the changes that the region will undergo as a result of climate change hence undermining its usefulness in the long run. In addition, investments in hydrological modelling by CRS fail to consider the integration of this information within the Observatorio Ambiental nor do they invest with integrating them with larger models thus effectively limiting their use as larger instruments for planning and for product development to enhance local capacities.</p> <p>In terms of the observation network, no planned investment in the short run is being directed to the Observatorio Ambiental to directly measure climate change in the region thus limiting its capacity to provide regionally appropriate products to enhance planning capacity.</p>	<p>Long term national capacities are also enhanced in monitoring climate change by an improved observation network and generating capacity on how to use remote sensing technology. This will allow the Observatorio Ambiental to upscale their national capacities in climate monitoring drawing from own monitoring system and remote sources.</p> <p>The hydrological models will enhance informed territorial and landscape management in the face of climate change by providing information on the impact of climate change in local hydrology as well as supporting in the identification the best measures to address impact and guide future adaptation measures. This information will hence enhance the capacity of the National Monitoring System to really gauge impact of restoration in generating resilience to climate change.</p>
<p>Output 3.2 Improved production and utilization of hydrological and climate information applied to decision-making by stakeholders and local development agents</p>	<p>Information is generic and not packaged in a manner that is currently relevant in decision making at a community or local municipal planning level (other than national drought alerts provided through sms networks).</p> <p>A national monitoring system for restoration is being developed by MARN to measure the impact of restoration activities. However, the system will limit its indicators to those focused on environmental management and carbon sequestration without incorporating indicators or means to measure impact on adaptation in the region, particularly when it comes to water management. This will limit the upscale of restoration as a strategy for adaptation.</p> <p>There is no local knowledge among communities as to how climate change will impact the region nor what that means to them. A lack of certainty in the region as to why productivity has been decreasing and on how to best prepare for climate shocks will remain thus undermining capacities of communities to effectively plan for climate change particularly in the management of key natural resources such as water. The</p>	<p>Hydrological information products will be developed to better guide EBA investments in watersheds, to enhance territorial planning and management and to improve the quality of early warning systems for meteorological drought. Relevant products such as an atlas for the region that maps climate impacts will be produced to help informed decision making. Localized information is enhanced increasing its quality, reliability and usefulness to the region.</p> <p>Investments will also be made to enhance capacity of community members in the monitoring as well as providing guidance on how to make use of this information for community decision making. This will provide community members with the certainty that has been missing in the region due to a lack of awareness of climate change a concern that was reiterated during the various consultations. EWS will also be enhanced through an improved monitoring network.</p>

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
	Observatorio Ambiental has limited capacity to engage with the community to generate climate information products that address this barrier with no investments foreseen in the near future to enhance their capacity.	
<b>4. Strengthening of inter-institutional coordination and local governance for landscape management in the face of climate variability and change</b>		
Output 4.1 Established technical capacities in municipal governance to integrate information and promote concerted action for adaptation	<p>Investment and actions within the landscape produces conflict among territorial actors competing for access of natural resources, thus continuing conflicting actions amongst conservation committees and producers' organizations, trying to address the reduced capacity of the territory (trying to conserve vs. increasing productivity).</p> <p>National, regional and local initiatives implemented in the region fail to support in the assimilation and consolidation of best practices thus missing opportunities to generate synergies for effective upscale and uptake by local authorities. This results in a business as usual approach to conservation and development projects in the region that fail to integrate this knowledge into planning actions at a municipal level.</p> <p>Coordination between the municipalities in the south Ahuachapán landscape remains limited.</p>	<p>Investments through the UNDP/AF project strengthen the capacity for governance at the municipal level through the establishment of a technical advisory council linked to the Association of Municipalities. This will facilitate the local management of technical information that is relevant at the territorial level for EBA while reducing conflict and duplication of actions. More importantly it will create a mechanism at a local level to disseminate and receive information (feedback loop) that is particularly relevant to generate capacity and resilience to climate change by promoting concerted action and uptake.</p> <p>The strengthening of local institutions and institutional frameworks to streamline climate change by informed actors is expected to contribute to improve the livelihoods of rural population, with secondary impacts on the capacity of communities to influence decisions in the territory. It will also ensure the inclusion of all stakeholders involved in land management including law enforcement thus addressing a key barrier identified through consultations.</p>
Output 4.2 Local adaptation plans designed and included in the municipality's territorial planning.	Climate change is not incorporated into municipal planning instruments. National adaptation plans are developed but remain too broad for local action. Planning remains as set in local development plans, that promote sustainable land management but fail to address the link to climate change and vulnerability thus not generating the capacities to transform these actions into effective EBA.	A participatory process is developed as a result of this output that allows for the development of a climate vulnerability assessment for the South Ahuachapán region. The results are shared with the communities and result in increased engagement on identifying adaptive actions. These in turn allow for the development of a local adaptation plan for South Ahuachapán for long term planning and that is made actionable through medium term municipal planning instruments in the 4 municipalities. Investments through this output directly enhance the capacity of local government to manage climate change

Components/Outputs	Baseline (without AF Resources)	Alternative (with AF Resources)
		impacts and generate climate resilience.
Output 4.3 Enhancing capacities of local organizations to articulate actions and mobilize financing for Ecosystem-based Adaptation	<p>Investment in the area by local organizations continue without addressing the climate change vulnerability in the region. Little knowledge on how to build solutions to manage climate impacts is generated thus having a negative impact of the sustainability of investments in the region and reducing the opportunity to address climate vulnerability.</p> <p>Funds mobilized to the area continue to be limited to international grant sources and public investment by MARN thus failing to address the financial gap needed in the region that could be covered by tapping into private sector finance. The private sector remains unaware of their own climate risks and hence are left out as stakeholders in identifying solutions.</p> <p>FIAES continues to be present in the region in promoting restoration actions as mandated by the local development plan drawing up on limited government resources thus limiting their capacity to act as an important national actor in mobilizing funding for adaptation. Limited national capacity to attract international climate financing remains.</p>	<p>Enhanced capacity building directed at local organizations to catalyze climate change action across the territory will result in better prepared and resilient landscapes within a context of financial sustainability.</p> <p>Enhanced capacities will lead to better mobilization of local organizations and leaders, helping more precise articulation and incorporation of community adaptation needs into project design phase for other adaptation initiatives moving forward.</p> <p>This will generate real resilience in providing local organization in the area to develop solutions to address climate change impacts and attract the financial resources and strategies needed to fund them. This will allow the inclusion of private sector funds and establish a link with private sector to mobilize finance in the area for adaptation.</p> <p>FIAES' enhanced capacity to develop adaptation projects and draw in more resources also ensures the sustainability of the project by allowing national institutions to develop a robust financial architecture to address climate change and ensure national ownership.</p>

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

**Political and Institutional Sustainability.**

167. The proposed project will be integrated as part of the National Ecosystems and Landscape Restoration Program of El Salvador (PREP), which is a key instrument of the National Environmental Policy, and is strategic component of government National Development Plan. The governance of the PREP lies in the Cabinet for Environmental Sustainability and Vulnerability which is constituted by Ministers and gives it a political basis at the highest level, enabling the coordination and synergy between the different State Departments (Ministries of Environment and Natural Resources, Agriculture, Public Works, Tourism and Vulnerability Secretariat) and working with one Vision/Mission - Climate Change Adaptation - where the PREP plays a strategic and important role. The project will also provide indicators that will feed into the PREP National Monitoring System thus ensuring a continuity in the monitoring of its results.

168. The proposal was developed in close coordination with the MARN, thus ensuring that the project proposal enjoys support at the highest Political level. Similarly, the project in its design ensured its coordination with diverse stakeholders, ministries, local government and development agencies. The project engaged in an extensive consultation process and will continue to develop

a wide range of engagement and participatory activities as described in the Stakeholder Engagement Plan to ensure a highly inclusive approach involving local actors to guarantee their awareness and participation in project activities and outputs. The project in its design, particularly in Component 4, will include a feedback mechanism to ensure that feedback in project implementation is considered and continues.

169. The project will invest significantly in its Component 4 in enhancing local governance and capacities that will enable its results being embedded within planning instruments to ensure that results do not stand alone but are included within larger institutional efforts targeting municipalities through the Association of Municipalities of the Microregion Sur and at a community level through the establishment of community agreed restoration plans. Capacity building targeted to FIAES also ensures that capacities remain within a national institution which is necessary to ensure a regional and national upscale. Finally, the development of a local adaptation plan, will provide a key output for adaptation planning that coupled with its streamlining in municipal planning instruments will ensure that these become actionable and encompass project results.

### **Financial Sustainability**

170. The project through its component 2 and 4 looks to catalyse financial investment within the region for adaptation. Through its component 2, the project will look to develop the scientific, financial and market information needed by financial institutions to invest in alternative livelihoods. It also looks to generate greater income opportunities through the identification of diversified products to ensure the sustainability of the project interventions. At project closure, project beneficiaries will have the capacities and financial means to build upon project results without a further need for outside financing. In the case of hydro meteorological equipment, the Observatorio Ambiental has indicated its capacity and commitment to finance maintenance requirements beyond the project's life span.

171. Component 4, is focused in generating the capacities to attract further financial resources for adaptation in the region. Hence, investment will be made in identifying the potential capacities for attracting financing from the private sector as well as in identifying the most adequate instruments to capture it (a local adaptation fund, off set mechanisms, loans). This will ensure that potential financial sources are identified and leveraged to guarantee a continued engagement in the region for adaptation objectives.

### **Social Sustainability**

172. Social sustainability will be achieved through the active participation of communities in the implementation of restoration measures as agreed upon through the community restoration plans outlined in Output 1, that will in turn serve as a community territorial governance mechanism. Community groups, community members and women participation will be fostered and strengthened through the implementation of concrete adaptation measures that will promote social organization and provide alternatives for income generation and food production to enable individuals to better cope with the impacts of climate variability. Through the development of a local adaptation plan, which requires a strong participatory process, community participation and coordination will also be fostered.

173. The proposed adaptation measures will be implemented as part of a collaborative effort between community members, productive associations, municipal and national authorities and local organizations. This approach, which includes capacity-building and awareness-raising related to climate change adaptation, will empower the participating social groups and will promote social organization for the development and implementation of strategies to reduce risk related to climate change. The TAC will be a key coordination, consultation and communication mechanism towards longer term social sustainability of the adaptation interventions in the municipalities of South Ahuachapán. The TAC will be comprised by community representatives to provide technical support to the Microregion to enhance community engagement in adaptation planning and serving as an important feedback mechanism thus enhancing social sustainability and reducing conflict amongst stake holders.

174. Finally, Output 2 looks to incorporate non-traditional stakeholders in environmental management such as productive organizations by producing information that is relevant to them and ensuring that these actors understand climate risk to local livelihoods. This provides a means to reduce conflict amongst actors and facilitate sustainability and upscale of EBA interventions.

### Technical Sustainability

175. The interventions proposed through the project build upon existing information and best practices developed within the region. Restoration actions build upon technical guides developed by MARN and will rely on local organizations with experience in ecosystem-based restoration in the region while creating capacities in local communities. Their effectiveness as an adaptation strategy comes from the strategic targeting of these to address climate change impact (prioritizing areas and actions that protect catchment and riparian areas and restore the drainage patterns in the intervention areas). Each community restoration plan will develop a strategy for maintaining interventions at a landscape level.

176. The project will invest extensively in capacity building to ensure that technical actions such as climate monitoring and the development of appropriate climate information products are supported through appropriate training. The project also engages with experienced actors in Ahuachapán such as FIAES, rural extension officers, productive associations and cooperatives to ensure technical sustainability of all actions.

### Environmental Sustainability

177. The interventions are designed in an integrated way that aims at protecting and improving ecosystem functions and services in the longer term while ensuring community buy in and stewardship. Investments also look to address key drivers of ecosystem degradation thus encompassing restoration within a larger landscape approach to reduce these. The long-term maintenance of the enhanced environmental conditions will be achieved through the compound effect of the planning, regulatory, restoration, protection, water and land use management measures that will be sustained through the above mentioned institutional, financial, social and technical functions and mechanisms. The interventions developed through the project will also be carried out on the basis of best practices implemented in the region and under the guidance of MARN to ensure their effectivity and will continue to be monitored through the National Monitoring System developed under the PREP thus ensuring that targets continue to be monitored beyond the project's life span.

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

178. A social and environmental assessment was prepared following UNDP's Social and Environmental Procedure to identify potential risks and determine mitigation and management measures that will be needed as part of the project implementation. The results of the assessment are included in Annex B. As a result, the project was classified in Category B.

**Table 12** - Overview of the environmental and social impacts and risks identified

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	X	
<i>Access and Equity</i>		X
<i>Marginalized and Vulnerable Groups</i>		X
<i>Human Rights</i>	X	
<i>Gender Equity and Women's Empowerment</i>		X
<i>Core Labour Rights</i>	X	

<i>Indigenous Peoples</i>		X
<i>Involuntary Resettlement</i>	X	
<i>Protection of Natural Habitats</i>		X
<i>Conservation of Biological Diversity</i>		X
<i>Climate Change</i>	X	
<i>Pollution Prevention and Resource Efficiency</i>		X
<i>Public Health</i>	X	
<i>Physical and Cultural Heritage</i>	X	
<i>Lands and Soil Conservation</i>	X	

179. Indications and descriptions of potential risks and mitigation measures for the principles that required further assessment and management for compliance (see table 12) are provided below. The risks and mitigation measures are summarized in Part III. Section C, and a detailed description of the risk screening and assessment is provided in Annex B.

### **Compliance with the Law**

180. The project complies with the applicable national legislation and is consistent with the relevant environmental and climate change policies and strategies as described in sections D and E above. No further assessment and management are required for compliance.

### **Access and equity**

181. The project seeks to ensure that its benefits are shared broadly in a non-discriminatory, equitable manner through participatory processes and transparent selection criteria. However, a risk has been identified in the access and equity for beneficiaries to the ecosystem-based adaptation measures, information and technological packages to be developed by the project through components 1 and 2. To mitigate this risk, the restoration activities described in Component 1 will be implemented through a call for proposals targeted to NGOs, ADESCOS, producer associations, watershed committees, and women associations, to work in close collaboration with the communities to implement the restoration activities identified in the community restoration plans to be developed through the project (component 1). The call for proposals will contain specific provisions to ensure that the allocation and distribution of benefits is fair, impartial, and without discrimination or favouritism, including as principles: i) Open to all persons in project areas on a non-discriminatory basis; ii) Benefits to be provided on basis of fair treatment of all eligible beneficiaries; iii) Targeted outreach to vulnerable groups and individuals; iv) Clear, accessible, culturally appropriate communications. More information on the principles and information to be included in the call for proposals is included in the ESMP.

182. The assessment identified a potential risk related to the restriction of access and availability to natural resources, in particular to marginalized individuals or groups, as a result of the implementation of restoration activities in critical natural ecosystems (output 1.2). To mitigate this risk, the restoration activities will be guided by the community restoration plans where specific restoration areas for different purposes (conservation and productive) will be identified, prioritized, discussed and agreed with local stakeholders. The community restoration plans will be aligned with the Local Plan for Sustainable Development of the Conservation Area El Imposible-Barra de Santiago, which was developed through a wide participatory process, and includes potential restoration areas as well as voluntary restoration goals agreed by local actors to make territories more resilient, conserve biodiversity, maintain livelihoods and protect productive activities. The principles and guidelines for the development and implementation of community restoration plans are included in the ESMP developed for the project.

183. To ensure access and equity of the information and technological packages to be developed in component 2, the project targets all 83 cooperatives in the municipality (of which 16 are women cooperatives), which will benefit from enhanced capacities through training and technical support. Training on the implementation of the adapted technological packages will also be directed to local organizations and extension officers, who will be able to reproduce the training and share information with additional households.

184. Potential project-related concerns and/or grievances of local communities and project stakeholders will be addressed through a complaint's register along with a Grievance Redress Mechanism described in the ESMP.

#### **Marginalized and vulnerable groups**

185. Some stakeholders, in particular marginalized groups, could potentially be excluded from fully participating in project activities and decision-making throughout implementation, due to limitations that may exist in their capacities. To mitigate this risk, community restoration plans will be established to guide the restoration activities of the project. The development of the community restoration plans will be developed through a participatory and inclusive planning process and guided by a survey/analysis of the stakeholders in the area to be covered by the community restoration plan to ensure that both the planning process and implementation of restoration activities include the participation of marginalized individuals or groups.

186. A Stakeholder Engagement Plan has been developed as part of the ESMP to ensure a meaningful and informed participation of the project stakeholders based on the following principles:

- Use a range of engagement forums, promoting group discussion to enable quality dialogue and conversations that allow people to develop a more complex understanding of the project activities and their relation to climate change adaptation in the region.
- Information should be presented in different ways to accommodate the various learning styles and needs in the communities.
- Promote feedback loops and enable opportunities for stakeholders to have input into decisions.
- Foster trust, respect and ownership of the project activities and products.
- Respect different viewpoints and inputs.
- Build on the different stakeholder activities to increase their participation and motivation.
- Provide transparent and gender-inclusive processes.

187. Enhancing local capacity to take concerted action in addressing climate change impact and prioritizing adaptation interventions is one of the key outputs of the project. Thus, capacity building activities have been included in all project components in order to address the barriers hindering climate change resilience identified during project design.

#### **Human Rights**

188. The project seeks to increase resilience and reduce vulnerability of the people and the environment to climate change in the south Ahuachapán region. Considering that climate change may impact the poor and marginalized populations disproportionately, this project has focused on the rural areas of the San Francisco Menendez municipality that are being directly affected by climate change. The activities to be undertaken by the project feed directly into The National Restoration Program - PREP (one of the main climate change adaptation initiatives in the country), and the Action Plan for Ecosystem Restoration and Landscapes 2018-2022. The PREP envisages landscape restoration as an approach to reduce climate risks, sustain productive activities and ensure the welfare of the country's population. The Action Plan includes as part of its design a human rights approach, establishing that from a restoration perspective, the human rights approach most ensure the right to health, water, and food security. No risks have been identified and further assessment is not required.

#### **Gender Equality and Women's Empowerment**

189. The project aims to enhance resilience of the local population in the intervention area, with a specific focus on women, recognizing that climate change impacts may affect women disproportionately and require adaptation strategies tailored to their needs. However, without specific management measures, there is a potential risk that women may be excluded from

decision-making or not adequately participate in the implementation of the project. To manage this risk, the project has been designed considering the key findings from the consultation and includes in all its components activities targeted to ensure women's adequate participation and engagement.

190. A Gender Action Plan and budget has been established as part of the ESMP. Participatory processes will include methodologies that promote the participation of women and therefore enhance the inclusion of their views into implementation of project activities.

191. The social impact indicators and corresponding targets included in the project are gender-sensitive, and will allow appropriate monitoring of the activities and measures implemented for the achievement of the project's outcomes as well as for risk management to ensure that women receive an equitable share of social and economic benefits and that their status and interests are not marginalized.

### **Core Labour Rights**

192. No further assessment required for compliance

### **Indigenous Peoples**

193. The project does not foresee any change or negative impact on the current livelihood of indigenous groups or their natural resource base. There are not self-determined indigenous communities present in the project's influence area. However, indigenous peoples in El Salvador have been historically marginalized and as a result are immerse among the urban and rural population of the country, resulting in a risk that indigenous peoples that are not self-determined are not identified and consequently excluded from project benefits and activities. To mitigate this risk, as part of the development of community restoration plans to be developed in component 1, a survey will be carried out at the local level as part of the development of community restoration plans to identify indigenous peoples that are not self-determined. Specific measures will be taken for appropriate engagement with indigenous peoples if these groups are identified.

194. The project will promote the participation of indigenous peoples through the *Mesa Nacional Indígena*. In addition, the project will promote the cultural and ancestral knowledge of the indigenous peoples in the restoration activities in productive landscapes to be conducted in component 1, favouring native species with ecological and nutritional value, and building on the work that MARN and the *Mesa Nacional Indígena* have jointly developed in identifying seeds used in ancestral and traditional practices. This work will also provide inputs to the development of the productive technological packages and establishment of seedbanks (component 2).

195. The TAC to be established as part of the implementation arrangements will include an Indigenous People's representative, to be jointly identified with the *Mesa Nacional Indígena*.

### **Involuntary Resettlement**

196. The project will not implement or support any activities that result in involuntary resettlement. No further assessment is required.

### **Protection of Natural Habitats**

197. The project includes restoration activities to restore ecosystem functions and decrease degradation in the areas that will be included in the community restoration plans. While no restoration activities are planned in natural protected areas or buffer zones, a risk has been identified that restoration activities are not planned and conducted appropriately and do not result in maintenance or enhancement of ecosystem functionality potentially affecting critical habitats.

198. The Conservation Area El Imposible-Barra de Santiago covers 90,467 hectares in the municipalities of San Francisco Menendez, Jujutla, Guaymango, San Pedro Puxtla, Tacuba and Concepción de Ataco, where a wide range of ecosystems are present, including coastal-marine; mangroves; dry tropical forests; and agroecosystems. The conservation Area contains nine

Natural Protected Areas, three of which are present in the municipality of San Francisco Menéndez: El Imposible National Park, which covers 3793 hectares in the municipalities of San Francisco Menéndez and Tacuba; the Natural Protected Area Santa Rita-Zanjón El Chino, which covers 295 hectares in San Francisco Menéndez; and the Biosphere Reserve of Apaneca-Illamatepec with 53,000 hectares located in the municipalities of San Francisco Menéndez, Tacuba and Jujutla.

199. The restoration activities in component 1 will be implemented in alignment with the National Restoration Program, which adopts a synergistic approach, by integrating agendas of mitigation and adaptation to climate change, biodiversity conservation, combat to land degradation, water resources management, and risk reduction. The restoration activities to be undertaken are consistent with the conservation of natural forests and biological diversity, and will be developed following the restoration techniques and technical guidelines established by MARN, ensuring that implementation is conducted under MARN standards as the corresponding governing body. Monitoring of all the restoration activities will take place, and the current national monitoring system will be strengthened through the project.

200. The specific restoration areas and activities will be defined in community restoration plans in alignment with the Local Restoration and Sustainable Environmental Development Plan for the conservation area El Imposible-Barra de Santiago. The community restoration plans will include provisions to ensure that the restoration activities are implemented outside the limits of the natural protected areas and do not cause adverse impacts on critical habitats. It is expected that the restoration actions undertaken through the restoration plans, while not directly in the natural protected areas, will favour ecosystem connectivity and the overall landscape. Engagement with NGOs and local stakeholders working in El Imposible-Barra de Santiago Conservation Area will be sought to ensure that the project builds on the conservation efforts, improve land planning and reduction of productive expansion into particularly sensitive areas.

### **Conservation of Biological Diversity**

201. Project activities are expected to positively impact the landscape by limiting soil erosion; achieving better soil conservation, promoting watershed protection, and habitat for biodiversity conservation in the intervention area. While the project seeks to promote the use of native species that are resilient to climate change, without management measures, there is an identified risk of potential use of alien species in the reforestation activities to be conducted in component 1. To mitigate this risk, the community restoration plans to be developed will identify specific restoration areas for natural and productive landscapes, as well as the most suitable species for reforestation, favouring native varieties. Restoration activities will be developed in alignment with the technical guidelines established by MARN. All restoration activities will be monitored to ensure that no introduction of invasive species is taking place.

202. The ESMP developed for the project establishes the guidelines for the development of community restoration plans and assessment to be undertaken to ensure that the restoration activities avoid introduction of alien species known to be invasive and promote the use of native species in restoration activities. In addition, the project will support collection of local knowledge of climate resilient crops and native species for their use in seed banks at the local level to ensure access to restoration material.

### **Climate Change**

203. The project will not result in an increase in greenhouse gas emissions or other drivers of climate change. The project is directly supporting the implementation of ecosystem-based adaptation measures at the local and landscape levels, including the reforestation of degraded areas, natural forest systems, and agricultural areas. The ecosystem-based adaptation measures proposed in the project are expected to generate climate change mitigation benefits through increased carbon sequestration and have been targeted to the landscape where these measures are most needed. No further assessment required for compliance.

### **Pollution Prevention and Resource Efficiency**

204. The project will support producers to adopt improved farming techniques (e.g. organic agriculture, soil and water conservation) that would reduce the use of fertilizers and harmful pesticides, thus reducing the contamination of soil and water bodies, as well as the development of seed banks for locally appropriate (culturally relevant) and climate resilient crops and plant species for these productive and natural systems. However, there may be a risk of potential use of pesticides in the implementation of agroforestry systems that may have a negative effect on the environment or human health. Though not foreseen, but if potentially harmful pesticides are needed and/or will be used, they will be properly managed, stored, used, in an adequate manner, following national and international standard regulation and procedures.

### **Public Health**

205. The project will not result in negative impacts to public health. The landscape restoration to be implemented by the project (component 1) will support the continued provision of ecosystem services to both the rural dwellers (such as water, forest materials); and the urban communities (especially in water supply). Improvements to the access food and water (both quality and quantity) in drought conditions will expectedly improve health conditions in households. No further assessment required for compliance.

### **Physical and Cultural Heritage**

206. The project will implement activities in San Francisco Menendez, a municipality that includes within its limits the Cara Sucia Archaeological Zone, a Mesoamerican archaeological site located in south Ahuachapán, close to the Guatemalan border. The site is under State property; however, it has not been declared as a National Archaeological Park. The limits of the archaeological zone are clearly defined and mapped. The area is also surrounded by urban development; thus no restoration activities will be conducted in the site or in areas adjacent. No further assessment required for compliance.

### **Lands and Soil Conservation**

207. The project seeks to implement restoration activities to positively impact the landscape by limiting soil erosion; achieving better soil conservation and restoring the ecosystem services of critical forest ecosystems. No further assessment is required for compliance.

### **Gender considerations**

208. El Salvador has established the Law of Equality, Equity and Eradication of Discrimination against Women (2011) and the Special Integral Law for a life for women free of violence (2012). The National Plan for Equality and Equity for Women in El Salvador 2016-2020, is the instrument that operationalizes the Law of Equality, Equity and Eradication of Discrimination against Women and the National Women Policy, and constitutes the main policy tool to promote equity for women with a national, sectorial and territorial scope. In spite of these steps to address gender equality, the country still faces important challenges and has a Gender Inequality Index (GII) value of 0.384, ranking it 85 out of 159 countries in the 2015 index. Thirty-five percent of the Salvadorian households are headed by, and dependent of women, and from these, 37% are in poverty conditions and 9.2% in extreme poverty<sup>31</sup>. Thirty-eight percent of the country's population resides in rural or non-urban areas, of which 20% are women<sup>32</sup>. Women account for 12% of the total producers<sup>33</sup>. Women still have lesser economic and political resources and are hence less able to cope with—and are more exposed to—the adverse effects of the changing climate. The project will seek to promote the generation of equitable gender benefits through the implementation of the Gender Action Plan as well as specific measures included throughout project components as explained below.

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<sup>31</sup> Multi-purpose Household Survey (EHPM) 2014.

<sup>32</sup> STPP & MINEC-DIGESTYC, "Medición Multidimensional de La Pobreza. El Salvador.," *San Salvador: Secretaría Técnica y de Planificación de La Presidencia y Ministerio de Economía, a Través de La Dirección General de Estadística y Censos.*, 2015.

<sup>33</sup> IV Agriculture and Livestock Census 2007-2008

209. Women's participation in the restoration activities included in component 1 will be ensured by including criteria in the call for proposals to encourage and facilitate women's participation. The participatory planning process of community restoration plans will be guided by specific principles and a local assessment/survey to guarantee participation of women in order to reflect their views and needs in the community restoration plans and their subsequent implementation. A Commission for the evaluation and oversight of restoration proposals will be established, including participation of a representative of the Salvadorian Institute for the Development of Women (ISDEMU).

210. Component 2 seeks to support the diversification of women livelihoods to strengthen resilience to climate change, identifying productive practices that benefit productive activities with high women's economic participation. This will be done by providing capacity building to all 16 women productive cooperatives and developing at least one technological package and market study that addresses the value chain of where women participation is the highest. Component 3 seeks to address adaptation needs of targeted women and men by including training to local communities (including women's associations) to be active participants in the monitoring process.

211. The technical advisory council that will be established at the territorial level (component 4.1), will include the participation and representation of women to ensure that their interests are represented effectively. The local adaptation plan to be developed in component 4.2 will also be constructed based on a vulnerability assessment which will include a specific focus on women.

212. The project's approach is consistent with the country's policy to promote equity for women as well as the National Restoration Program and the Action Plan for Ecosystem Restoration and Landscapes (2018-2022), which includes gender equity as one of its principles, seeking that landscape restoration ensures equality between men and women and promotes opportunities for women to strengthen their capacity and participation in restoration processes.

## **PART III: IMPLEMENTATION ARRANGEMENTS**

### **A. Describe the arrangements for project / programme implementation.**

213. The Government of El Salvador will implement this five-year project with the support of UNDP under the National Implementation Modality (NIM). The Ministry of Environment and National Resources (MARN) will be the national implementing partner (executing entity) responsible for ensuring that the project results are achieved, and that resources are allocated and disbursed efficiently and effectively as is detailed in the Project Document. MARN will operate through its Official Contact Points (OCP). MARN will sign agreements with relevant partners as FIAES (Fondo de Iniciativa de las Américas) to support the implementation of the first component.

214. The MARN was created in 1997 to act as the national focal point for the national and international agenda of biodiversity, climate change, and pollution reduction in water, soil and air. MARN is the coordinator of Sustainability Cabinet and the National Environmental Sustainability and Vulnerability Council (CONASAV). Internationally, MARN is the designated focal point of climate finance with GEF, Adaptation Fund and is the NDA to the GCF. MARN, through the support of UNDP, has a consolidated experience implementing GEF and bilateral projects in strategic areas like biodiversity and climate change. UNDP has evaluated the financial and implementation capacity of MARN as implementing partner with positive results. To ensure the impact of its work the MARN holds annual evaluations and audits of all its projects.

215. MARN has made important efforts in incorporating the gender perspective in the policies, programs and projects designed and implemented by MARN, through the development of general guidelines and criteria for the incorporation of the principles of equality and no discrimination that seek to guarantee compliance with the objectives of the National Policy for Equality, and contributing to the respect and protection of women's human rights and the eradication of all forms of discrimination against women. The guidelines also seek to incorporate the gender perspective

in the actions implemented under the National Environmental Strategy, recognizing the interrelation between the environment, human rights and gender.

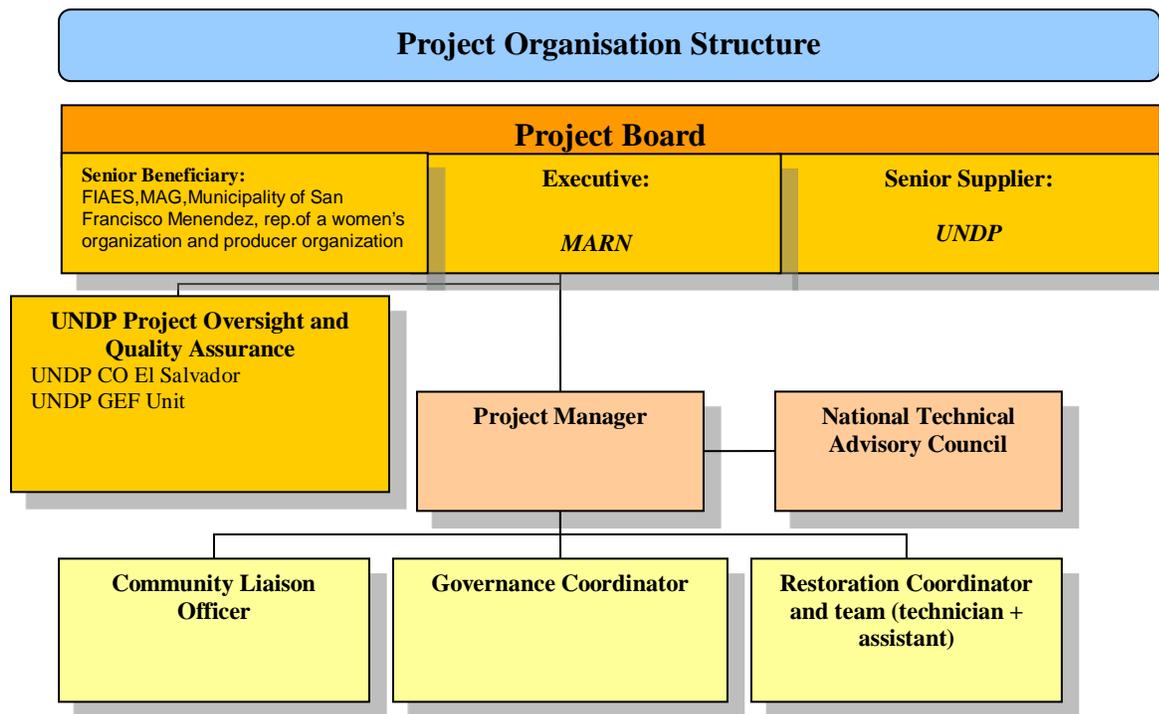
216. FIAES is a public utility fund, created by National Legislative Decree No. 585 as part of an environmental debt swap agreement with the USA Government and the Government of El Salvador. FIAES leverages resources with governments, civil society, and the private sector to generate transformational changes in the sustainable use of natural resources, facilitating adaptation to climate change and ensuring the wellbeing and conservation of national patrimony. FIAES is governed by an Administration Council with 7 members established by Law: A representative from US Government, Two representatives from El Salvador Government, 4 representatives from civil society (NGO, Academy, producers). FIAES has 25 years working at a national level in the conservation and restoration of ecosystems including forests, wetlands, coastal areas, watersheds, and agro-ecosystems, to strengthen the environmental services and ecological functions they carry out, which are essential for human development. These include water production, food, climate regulation, CO2 sequestration, and climate change mitigation, among the most important.

217. FIAES has committed to mainstream gender and social inclusion in its organizational culture and in all its territorial interventions to promote equity, equality and social inclusion for women and men in national conservation and restoration processes. FIAES is currently finalizing its Gender Policy, which has the following strategic lines: 1) Strengthening institutional capacity related to gender and social inclusion; 2) Development of a gender-sensitive organizational culture; 3) Mainstreaming gender in institutional planning and budgeting; and 4) Creation of operational mechanisms and strategies that allow equitable access of women, men and youth to the institutional processes that develop in the intervention territories of FIAES. In addition, FIAES develops an Environmental and Social Assessment (ESA) of the programs and projects it supports and implements. The ESA considers a gender approach, aligned to the strategic measures established in FIAES Gender Policy, through the institutional safeguard SAS-9 on Gender. In alignment with the National Restoration Plan developed by MARN, FIAES has been designated by the MARN as an actor responsible for implementing restoration actions in the southern part of Ahuachapán.

218. An Agreement letter as responsible party will be signed between MARN and FIAES in order to receive and assign funds as low-value grants (also known as micro capital grants) to local organizations and associations (cooperatives, producer associations, water boards), to implement the activities linked to Component 1 that are approved as part of this Project Document. The agreement will indicate the disbursement calendar and the conditions for each disbursement to FIAES. These grants will be implemented under the guidelines of UNDP for Low-value grants (also known as Micro Capital grants). FIAES will design a specific Announcement for the activities/results of this project. It should be noted that a cooperation agreement was signed by both institutions on May 23, 2014. The agreement establishes the role of FIAES as a financial mechanism to promote restoration activities in targeted areas in accordance to the National Environmental Policy and its Action Plan and Strategies.

219. MARN, through the project's PMU, will lead in the implementation of the actions related to Components 2, 3 and 4. Coordination agreements will be signed with MAG (CENTA) in the case of Component 2. Component 3 will be led by MARN's Observatorio Ambiental under the direction of the PMU. The PMU, to be headed by a Project Manager, will respond directly to MARN's Climate Change Division.

220. The project's organization structure is summarized in the below figure:



**Figure 22 - Project Organizational Structure**

221. The Project Manager or Coordinator will prepare a Work Plan to incorporate the activities and results of the project to be delivered. The Plan will define the timeframe for implementation of each activity and the parties responsible for their implementation. The First Work Plan will be finalized and incorporated into the Project Inception Report, within 30 days of the start of project implementation. The involvement of partners will be essential to the success of the planning phase, during which, the Annual Work Plan will be prepared.

222. A Project Board (also called Project Steering Committee) will be formed for the project and will be responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendations for approval of project plans and revisions, and addressing any project level grievances. In order to ensure UNDP's ultimate accountability, Project Board decisions will be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager.

223. Project board will be constituted as follows:

- Executive role: a representative of the Ministry of Environment and Natural Resources (MARN)
- Senior Provider: a representative of the UNDP CO in El Salvador.
- Principal beneficiary: will be represented by a representative from FIAES, a representative from MAG, a representative of the Municipality San Francisco Menendez and a representative from a local producer organization and a local women's organization.

224. The Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the annual project reports and make recommendations for the work plan;

- Assess and decide to proceed on project changes through appropriate revisions.

225. Project assurance: UNDP El Salvador will support project implementation by assisting in monitoring project budgets and expenditures, UNDP El Salvador will also monitor the project implementation and achievement of the project outcomes/outputs and ensure the efficient use of donor funds through an assigned UNDP Programme Officer of Sustainable Development and Resilience, to support the Project Board to objectively and independently oversee and monitor the project.

226. The **National Technical Advisory Council** represents a platform that links to Organized Civil Society (academia, NGOs, Producers Associations), international cooperation present in the area and local and national government, promoting coordination and communication among all members on both levels on the issue of climate change. All climate change projects that are managed in different national institutions are presented to the Council, as the appropriate body for discussion, approval, execution and monitoring of projects, in a technical level. The inclusion of this figure ensures coordination at a national level to avoid duplication.

227. The Project Board will meet regularly at the beginning of the year to approve the POA and at the end of the year to evaluate the implementation results and during special sessions when convened by the Executive. UNDP will be responsible for accountability for the effective implementation of this project to the Adaptation Fund. As a multilateral implementing body, UNDP is responsible for providing a number of key services for general management and technical expertise. These services are provided through the global network of offices and Units in the country, at regional level and from UNDP headquarters, and include assistance in:

- a) the formulation and evaluation of the project.
- b) determining the mode of implementation and evaluation of local capacities.
- c) briefings with staff and project consultants.
- d) general surveillance and monitoring, including participation in project reviews.
- e) receiving, allocating and informing the financial resources Donor.
- f) Fiduciary guarantee of the projects
- g) thematic and technical support
- h) provision of systems, information technology infrastructure, brands and knowledge transfer
- i) research and development
- j) participation in policy negotiations
- k) policy advisory services.
- l) identification and program development.
- m) identification, access, combination and financing sequences.
- n) problem solving.
- o) identification and consolidation of learning.
- p) and training and capacity building.

228. The Technical Advisory Council (TAC) to be created as a result of Output 4.1 will serve as a key discussion and coordinating instrument for project results to a wider audience. Its discussions will feed into project planning and monitoring processes and stated in the project's stakeholder engagement plan. Composition of the TAC will ensure equitable gender representation and will be made up 1 representative from local organizations working within the landscape including conservation associations, watershed committees, productive associations or cooperatives, women's association, civil society organizations and regional representatives of MAG and MARN, and a member of the Ahuachapán Partner Group.

229. Upon request from the Implementing Partners, UNDP can provide Direct Project Services (DPS) according to its specific policies and convenience. In this case, the Implementing Partner will sign a Letter of Agreement (LOA) specifying the services to be provided and their costs. The costs of these services will be part of the project management costs of the executing entity identified in the project budget. UNDP and the government of El Salvador recognize that these

services are not mandatory and will only be provided in full compliance with the UNDP recovery of direct costs policies. The Direct Project Costing (DPC) for those services will be charged annually using the UNDP cost recovery policy. A draft LOA has been established and agreed upon by both MARN and UNDP. The LOA will be signed upon the signature of the project document.

**Table 13 - Key national stakeholders to be involved and their roles**

Stakeholders	Roles
Ministry of Environment and Natural Resources (MARN)	National Executing Agency. Through the Project Coordination Office, will ensure that necessary synergies are created with other national partners. These collaborations will be formalized through letters of agreement with different institutions.
Fondo de Iniciativa de las Américas (FIAES)	Responsible party of the project. FIAES will be an integral part of the Project Board, and will also sign a letter of agreement with MARN for the implementation of certain activities. FIAES through a special Call for Funding will support the implementation in field of the restauration of landscape
San Francisco Menendez Municipality	Is a main beneficiary of the activities of the project, but also the presence of the Municipality is very relevant for the project because in the national law (Municipal Code of El Salvador) the Municipality is the legal representative of a territory.
Southern Microregion of Ahuachapán (MICSUR)	This association of Municipalities in the southern part of Ahuachapán is composed by Municipalities of San Francisco Menéndez, Jujutla, San Pedro Puxtla and Guaymango. Political coordination and support platform for Municipalities, MICSUR will be part of the TAC, and will also accompany municipalities in high level efforts to consolidate actions. MICSUR Municipalities has also the same aquifer. Feedback from the MICSUR will be provided through the Technical Group developed as part of this project that will provide technical support to MICSUR and its municipalities.
Ramsar Wetland Committees	These are local interest groups and community-based organizations which are direct beneficiaries of the project. These groups will be involved in planning and ground level implementation through participatory and consultative processes. They will also receive capacity building and as thus be beneficiaries of the project. The watershed councils have a role to coordinate between municipalities and local water boards within watersheds. The Local Environmental Observation Networks (ROLA) are volunteers with the commitment of natural resources protection and have presence in San Francisco Menendez.
Watershed Councils	
Local Advisory Committee (COAL) in Apaneca – Iamatepec and Los Cóbano Area	
Local environmental observation network (ROLA)	
Municipal Civil Protection Committee	
Community Development Associations(ADESCOS)	
Water Boards	
Women's Networks	
NGOs (UNES, FUNDESYRAM, IMU)	
Producers associations (agriculture, livestock, fisheries)	
National Institution of Municipal Development (ISDEM)	Is an autonomous national entity with the objective of providing technical, administrative, planning and financial assistance and capacity building to municipalities for the achievement of their responsibilities and functions.
Ministry of Agriculture and Livestock (MAG)	Political responsibility and Technical assistance for productive activities and will provide support in the implementation of output 2. As a beneficiary to the project will be represented in the project board.
National Center for Agricultural and Forestry Technology	Technical assistance for activities related to sustainable agriculture

Stakeholders	Roles
"Enrique Álvarez Córdova" (CENTA)	
National Environmental Observatory (Observatorio Ambiental- OA)	Direct beneficiary to be strengthened in its role (e.g. through the CC and hydrological Observatory functions). Will guide the implementation of Component 3
National Agriculture School (ENA)	Project partners to develop research. These institutions will collaborate through the TAC.
NGOs with presence in the area	Participants in the implementation of Project activities related to restoration of natural and productive landscapes.
Environmental Sustainability a Vulnerability Cabinet (GSAyV)	This public high-level cabinet has the participation of Ministry of Agriculture and livestock, Ministry of Infrastructure, Transport and housing and urban development, Ministry of Tourism, Vulnerability Secretariat, Technical Planning Secretariat, the National Administration of Aqueducts and Sewers and it is coordinated by the Ministry of Environment and Natural Resources.
Sustainable and Vulnerability National Council (CONASAV)	The highest national committee of public and private sectors to address sustainability issues.

**B. Describe the measures for financial and project / programme risk management.**

230. Key risks underlying the project have been analysed during the preparation phase of the project. As a result, mitigation measures have been identified and will be implemented to manage the risks during project implementation. A UNDP risk log will be regularly updated in intervals of no less than every six months in which critical risks to the project have been identified. The risks facing the project and the risk mitigation measures are summarized below.

**Table 14 - Measures for financial and project / programme risk management**

No.	Risk	Type	Probability of Risk	Potential Impact	Mitigation Measures
1	There is uncertainty regarding the local political will to incorporate adaptation measures into planning instruments	Political	Low	Medium	<ul style="list-style-type: none"> <li>• The project includes the establishment of a technical advisory group to improve coordination and dialogue between institutions and associations acting locally. This working group will work to support the association of municipalities of the Southern Microregion of Ahuachapán as a potential clearing house on sustainable landscape interventions within the area to strengthen capacities of municipalities for climate change adaptation.</li> <li>• The project includes capacity building and knowledge generation and management activities targeted to municipal governments, which are integrated in the Stakeholder Engagement Plan.</li> <li>• The project will promote the active participation of policy and decision-makers in key stages during the lifetime of the project (approval, inception,</li> </ul>

No.	Risk	Type	Probability of Risk	Potential Impact	Mitigation Measures
2	Institutional and policy changes related to change of Government delay project implementation	Political/ Institutional	Medium	Low	<p>implementation, and mid-term and final evaluations).</p> <ul style="list-style-type: none"> <li>• The project was designed to support the implementation of the National Restoration Program, and is aligned with the NDC and other medium and long-term policies.</li> <li>• Component 3 of the project will work to strengthen MARN's capacities on EBA and climate change monitoring.</li> <li>• The restoration activities will be implemented by FIAES, working with local organizations and communities, which has ample experience in the area working with local organizations to implement activities for restoration, sustainable agriculture, management of natural protected areas, and conservation of ecosystems.</li> <li>• Knowledge management and capacity building strategies have been included to foster action at the municipal and national level, including participation of a wide range of stakeholders including NGOs and academia.</li> <li>• The project team will work with MARN to systematize relevant information and good practices to provide information and early engagement with new government officials.</li> </ul>
3	Conflicting interests among stakeholders with respect to land use and access to and use of natural resources impact project results and activities	Political/ Institutional	Medium	Medium	<ul style="list-style-type: none"> <li>• The project will benefit multiple stakeholders with diverse interests by including activities focused both on conservation and enhancing ecosystem services as well as increasing productivity.</li> <li>• The project will promote collaboration and synergies from different initiatives working in the region to incorporate adaptation as a long-term measure of sustainability in south Ahuachapán. The project will work closely with the International development partners and organizations in the Ahuachapán Partner Group.</li> <li>• Component 4 of the project favors consultation and collaborative action among local associations and stakeholders to ensure collective ownership and social sustainability of the overall project planning and results, and deepen insight into current, historic and</li> </ul>

No.	Risk	Type	Probability of Risk	Potential Impact	Mitigation Measures
					<p>potential future adaptation issues, fostering good governance and creating an environment conducive to innovations.</p> <ul style="list-style-type: none"> <li>• Implementation of the Stakeholder Engagement Plan, which targets a wide range of stakeholders seeking to build and maintain over time a constructive relationship between stakeholders.</li> <li>• Strengthen dialogue between MARN and the sugar cane private sector to enhance sustainable practices of sugar cane producers.</li> </ul>
4	Security issues in the region slow the implementation of project activities	Operational	Low	Medium	The project team and MARN will coordinate with municipal authorities, local police and producer associations in planning and developing field visits, capacity building events and technical assistance activities.
5	Limited engagement of the local actors in the implementation of the project activities which leads to a lack of appropriation of the adaptation measures affecting project sustainability in the long term	Operational	Low	High	<ul style="list-style-type: none"> <li>• The project has been designed in collaboration with national and local actors, and reflects inputs gathered through the consultations.</li> <li>• Community restoration plans will be developed in the first year of the project to guide implementation of restoration activities. Working with communities to establish community restoration plans within the prioritized areas for restoration will ensure community ownership of forest landscape restoration processes and approach to land management; integration between local associations; and the creation of organized groups.</li> <li>• A Stakeholder Engagement Plan has been developed including a Gender Action Plan and dedicated budgets to ensure stakeholder participation and project ownership.</li> </ul>
6	Extreme weather events affect the project's outputs that are sensible to the occurrence of extreme weather events	Operational/ Financial	Low	Medium	The design of the project seeks to address vulnerability to climate change and variability, and considers different types of restoration activities that will be implemented simultaneously to strengthen and complement the positive expected effects from these interventions.
7	Delays in executing project funding at the local level	Financial	Low	Medium	<ul style="list-style-type: none"> <li>• Project activities have been designed and paced to ensure a reasonable chance of completion after the timeframe of the project.</li> <li>• FIAES has extensive experience working with local organizations.</li> </ul>

No.	Risk	Type	Probability of Risk	Potential Impact	Mitigation Measures
					MARN and FIAES will work together to ensure that the calls for proposals included reasonable time frames and adequate implementation arrangements.

231. The project will develop an inception workshop at the start of the project to assist all parties to understand and take ownership of the project. The inception workshop will include the review of the assumptions and risks. A comprehensive risk management strategy will be a core component of project management activities, in line with UNDP's risk management approach which is corporate policy. The respective UNDP CO provides support to the project team and executing agency for constant and consistent risk monitoring, and the results are tracked and reported in UNDP's internal risk monitoring system.

232. Risks will be entered into the UNDP's ATLAS (project management system). Based on the initially submitted risk analysis, the risk frameworks will be regularly updated in ATLAS. Dedicated budget has been allocated for monitoring and evaluation to ensure that the necessary resources are allocated to execute the M&E framework.

**C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

233. As part of the project preparation, a screening process was conducted to identify potential environmental and social impacts and risks and their level of significance. The detailed assessment and screening process is included as Annex B of this proposal.

234. The table below summarizes the main risks identified and the measures that will be undertaken during the implementation of the project for risk management and mitigation. The mitigation measures are embedded in the project design and activities, as well as the ESMP procedures, the Stakeholder Engagement Plan and the Gender Action Plan. The risk mitigation and management measures are described in detail in Section K, as well as in the ESMP attached to this proposal.

**Table 15 – Identified risks and corresponding measures to be undertaken during the implementation of the project in order to manage and mitigate risk**

Potential risk	Category	Related project activities	Level of Impact and Probability	Mitigation Measures
Restoration activities could temporarily restrict availability, quality of and access to resources, in particular to marginalized individuals or groups	Social	Component 1.2	I: Minor <sup>34</sup> P: Moderately likely	<ul style="list-style-type: none"> <li>The specific restoration areas and activities will be defined in community restoration plans in alignment with the Local Restoration and Sustainable Environmental Development Plan for the conservation area El Imposible-Barra de Santiago, which was developed through a wide consultation process and includes potential restoration areas as well as voluntary restoration goals agreed by local actors to make territories more resilient, conserve</li> </ul>

<sup>34</sup> Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated. Source: UNDP SES screening procedure

Potential risk	Category	Related project activities	Level of Impact and Probability	Mitigation Measures
				<p>biodiversity, maintain livelihoods and protect productive activities.</p> <ul style="list-style-type: none"> <li>• The community restoration plans will define restoration areas for different purposes (conservation and productive) and will be developed through participatory and inclusive processes to establish community agreement on landscape management.</li> <li>• Community restoration plans will be developed through a call for proposals that will include specific provisions to ensure that the allocation and distribution of benefits is fair, impartial, without discrimination or favouritism</li> <li>• A commission of Evaluation of proposals for the development of community restoration plans will be set up to provide advice and assess community restoration plans.</li> </ul>
Stakeholders, in particular marginalized groups, could potentially be excluded from fully participating in project activities, and decision-making	Social	Applied to all project components	I: Moderate <sup>35</sup> P: Not likely	<ul style="list-style-type: none"> <li>• The project includes inclusive and participatory dissemination and capacity building events, that will seek to address the limitations in capacities of local stakeholders to participate effectively in decision making that can affect them.</li> <li>• Specific provisions in the call for proposals to implement restoration activities to ensure that women and other relevant groups such as elderly and youth receive an equitable share of benefits and that their status and interests are not marginalized.</li> <li>• A survey/analysis will be conducted at the local level to produce a stakeholder map where marginalized groups and individuals are identified. This analysis will inform the participatory planning process as well as the development of the call for proposals for the implementation of community restoration plans.</li> <li>• Implementation of the Stakeholder Engagement Plan</li> <li>• Potential project-related concerns and/or grievances of local communities and project stakeholders will be addressed through a complaint's register along with a Grievance Redress Mechanism.</li> </ul>

<sup>35</sup> Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures. Source: UNDP SES screening procedure

Potential risk	Category	Related project activities	Level of Impact and Probability	Mitigation Measures
Limitations in the capacities of stakeholders restrain their capacity to carry out governance roles and implement project activities	Social	Applied to all project components	I: Moderate P: Highly likely	<ul style="list-style-type: none"> <li>The project includes activities in all components to enhance capacities, financing capacity building activities and knowledge dissemination targeted to members of communities, farmers, municipal and national government.</li> <li>Implementation of the Stakeholder Engagement Plan.</li> </ul>
Women may be excluded from decision-making or not adequately participate in the implementation of the project	Social	Applied to all project components	I: Moderate P: Moderately likely	<ul style="list-style-type: none"> <li>The project includes in all components specific activities targeted to include women in decision-making processes and guarantee their adequate participation, which were designed with inputs from the consultations undertaken as part of the design phase.</li> <li>Implementation of the Gender Action Plan developed for the project.</li> <li>The measures, techniques, and mechanisms to be supported in the project aim to the high participation of women and as such project indicators are gender disaggregated with the goal of targeting women to ensure their participation in all project activities.</li> </ul>
Restoration activities are not planned and conducted appropriately and do not result in maintenance or enhancement of ecosystem functionality potentially affecting critical habitats.	Environmental	Component 1 (1.1, 1.2, 1.3)	I: Moderate P: Not likely	<ul style="list-style-type: none"> <li>The specific restoration areas and activities will be defined in community restoration plans in alignment with the Local Restoration and Sustainable Environmental Development Plan for El Imposible-Barra de Santiago.</li> <li>Restoration activities will be implemented in accordance with the restoration and land use guidelines established by MARN.</li> <li>Community restoration plans will include provisions to ensure that activities will not cause adverse impacts on critical habitats.</li> <li>Engagement with NGOs and local stakeholders working in El Imposible-Barra de Santiago Conservation Area (according to stakeholder engagement plan), to ensure that the project builds on the conservation efforts.</li> </ul>
There is a risk that alien species are used for restoration in case of limited availability of native species.	Environmental	Components 1.2 and 1.3	I: Moderate P: Moderately likely	<ul style="list-style-type: none"> <li>Provisions will be included in the community restoration plans to ensure that the project avoids introduction of alien species known to be invasive and promote the use of native species in restoration activities.</li> <li>The project will support collection of local knowledge of climate resilient</li> </ul>

Potential risk	Category	Related project activities	Level of Impact and Probability	Mitigation Measures
				<p>crops and native species, as well as providing access to seeds through seed banks that will ensure the access to restoration material.</p> <ul style="list-style-type: none"> <li>The restoration activities will be undertaken in accordance with the guidelines established by MARN for the Restoration Program, which includes a nursery system and forest seed centers to guarantee that restoration is undertaken with the appropriate species and ensure seed quality.</li> </ul>
Indigenous peoples that are not self-determined are not identified and consequently excluded from project benefits and activities	Social	Component 1 (1.1, 1.2, 1.3)	I: Severe <sup>36</sup> P: Slight	<ul style="list-style-type: none"> <li>As part of the development of the community restoration plans, a survey/analysis will be conducted at the local level to produce a stakeholder map where marginalized groups and individuals are identified, including groups that do not self-determine as indigenous peoples but whose characteristics may classify them as IPs. Steps will be taken for appropriate engagement with IPs if these groups are identified.</li> </ul>
Implementation of agroforestry systems may involve potential use of pesticides	Environmental	Component 1.3	I: Moderate P: Not likely	<ul style="list-style-type: none"> <li>The Project will support producers to adopt improved farming techniques (e.g. organic agriculture, soil and water conservation) that would reduce the use of fertilizers and harmful pesticides, thus reducing the contamination of soil and water bodies.</li> <li>Though not foreseen, but if potentially harmful pesticides are needed, they will be properly managed, stored, used, following national and international standard regulation and procedures.</li> </ul>

**D.** Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund.

**M&E oversight and monitoring responsibilities:**

235. The project results as outlined in the project results framework will be monitored by MARN under the coordination of the project's PMU and reported annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. Project monitoring will include monitoring of the project's stakeholder engagement and gender action plan as stated in the ESMP. This will be done through the leadership of a community liaison officer

<sup>36</sup> Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe. Source: UNDP SES screening procedure

that will be part of the PMU and that along with the Project Manager will be responsible for ensuring that the project meets the targets within these plans and provide a report to the project board.

236. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office in El Salvador will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory AF-specific M&E requirements will be undertaken in accordance with relevant AF policies.

237. Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office in El Salvador and the UNDP-GEF Regional Technical Advisor of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

238. The Project Manager will develop annual work plans to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and AF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. Environmental and social management plan, gender action plan etc..) occur on a regular basis. The Project Manager will be supported by a Project Management Unit that will include a Restoration Coordinator, a Governance Coordinator and a Community Liaison Officer that will monitor achievement of project goals and objectives and collect appropriate means of verification as included in the project evaluation framework.

239. Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the project's annual work plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

240. Project Executing Entity (MARN): The Executing Entity is responsible for providing all required information and data necessary for timely, comprehensive and evidence-based project reporting included in the Project Performance Report (PPR), including results and financial data, as necessary and appropriate. The Executing Entity will strive to ensure project-level M&E is undertaken by national institutes including FIAES, and is aligned with national systems so that the data used by and generated by the project supports national systems. The Project Manager will report to MARN.

241. UNDP Country Office (CO): The UNDP CO will support the Project Manager as needed, including through supervision missions and regular monitoring of the project. Annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP CO will initiate and organize key M&E activities including annual reporting, independent mid-term and terminal evaluations. The UNDP CO will also ensure that the standard UNDP and AF M&E requirements are fulfilled to the highest quality.

242. The UNDP CO is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; the regular updating of the ATLAS risk log. Any quality concerns flagged during these M&E activities (e.g. annual PPR reporting, quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

243. UNDP-Global Environmental Finance Unit (UNDP-GEF): Additional M&E and implementation oversight, quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate. This includes in the annual review of PPR reports, the development of mid-term and terminal evaluations as well as project oversight and reporting to the AF.

**Start of the Project:**

244. An inception workshop will be conducted in the first two months of project, convening stakeholders with roles assigned in the structure of the project organization, the UNDP CO and, where appropriate and feasible, technical advisers from regional programs and policies, and other stakeholders. The inception workshop is crucial to contribute to ownership of the project results and to plan the first Annual Work Plan.

245. The inception workshop will address a number of key issues including:

- To assist all parties to understand and take ownership of the project. Detail the roles, support services and shared responsibilities. Discuss the roles, functions, and responsibilities within the decision-making structure of the Project, including reporting and communication lines, and conflict resolution mechanisms. The terms of reference for project staff will again be reviewed if necessary.
- To finalize the first Annual Work Plan based on the Project Results Framework. Review and establishment of mutual agreement on indicators, targets and means of verification, and review of the assumptions and risks, making sure the gender considerations are included in all of levels of planning, programing, implementing, tracking results and lessons learned.
- To provide a detailed summary of reports, monitoring and evaluation (M & E). The Work Plan and M & E budget shall be agreed budget and scheduled.
- Discuss financial procedures, obligations and arrangements for annual audits.
- Plan and schedule Board meetings. The roles and responsibilities of all organizations that are part of the structure should be clarified, and meetings shall be agreed on. The first meeting of the Board shall be held within the first 12 months after the inception workshop.

246. The inception workshop report is a key reference document and must be prepared and shared among the participants to formalize the decisions and plans agreed during the meeting.

**On a quarterly basis:**

247. Registered progress should be monitored based on the Management Platform Based on UNDP results:

- Based on the initially submitted risk analysis, the risk framework should be regularly updated in ATLAS. The risk becomes critical when the impact and probability are high. All financial risks associated with financial instruments as revolving funds, Micro financial schemes, or ESCOs capitalization are automatically classified as critical, based on their innovative nature (high impact and uncertainty due to the lack of experience, justifying their classification as critical).
- Based on the information entered in Atlas, a Project Progress Report can be generated in the Executive Snapshot.
- Other ATLAS inputs can be used to monitor lessons learned, etc. The use of these functions is a key indicator in the Executive Balanced Scorecard.

**Annually:**

248. The project will submit a Project Performance Report (PPR) to the donor on an annual basis, one year after the start of project implementation (date of inception workshop) and the last such report should be submitted six months after project completion. The PPR completed template will be submitted to the Secretariat in English with all financial figures provided in the template provided in US dollars (USD).

**Periodic monitoring through field visits:**

249. The UNDP Country Office and the UNDP GEF Unit through its Regional Technical Advisor for Adaptation will conduct field visits to the project based on the program agreed in the inception

report and annual work programme, to attend first hand project progress. Other members of the Board can join these visits. A report from the field visit will be prepared by the country office and by the UNDP GEF Regional Technical Advisor, and will be circulated no later than one month after the team's visit.

**Average project cycle:**

250. The project will be subject to an independent mid- term evaluation, when the project has reached its halfway implementation, which will determine the progress achieved on the results, and will identify rectifications where necessary. It will focus on the effectiveness, efficiency and timing of project implementation; it will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management.

251. Findings of this review will be incorporated as recommendations for enhanced implementation during the second half of the project. The organization, terms of reference and precise timing of the mid-term evaluation will be decided after consultation among the parties to the project document. The terms of reference for this mid-term evaluation will be prepared by the Country Office based on advice from the UNDP GEF Unit and UNDP EEG. The Response management and evaluation will be uploaded to the UNDP system, in particular to the UNDP Evaluation Office Evaluation Resource Centre (ERC).

**Project end:**

252. A final independent evaluation will take place two months before the final meeting of the Board and shall be conducted in accordance with the UNDP and the AF guidelines, such as social, gender and environmental guidelines. The final evaluation will focus on delivering the results of the project as planned initially (as it was rectified after the mid-term evaluation, if any rectification took place). The final evaluation will look at impact and sustainability of results, including the contribution of capacity building and the achievement of global environmental benefits. The terms of reference for this evaluation will be prepared by the Country Office based on advice from the UNDP Regional Hub. The final evaluation should also provide recommendations for monitoring activities and will require a management response that should be uploaded to PIMS and the UNDP ERC.

253. During the final three months, the project team will prepare the final report of the project. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems encountered and areas where results may not have been achieved. It will also present recommendations for future steps that may need to be taken to ensure sustainability and replicability of the project results.

**Audit:**

254. Audits will be performed under the UNDP financial regulations and rules applicable to audit policies on UNDP NIM projects.

**Learning and shared knowledge:**

255. Project results will be internally disseminated and beyond the project target area, through existing information sharing networks and forums. The project will identify and participate, where relevant and appropriate, in scientific networks, policies and/or any other network that may be of benefit to project implementation through lessons learned.

256. Finally, there will be a two-way flow of information between the project and other projects with a similar approach. Systematization of experiences will be done on the regular basis as indicated through the project components.

**Publications:**

257. The AF logo will appear on all relevant publications of the Project, included within other logos, project equipment and other acquisitions with AF funds. Any citation in publications regarding projects funded by the AF should give recognition to the AF. The logos of the implementing agencies and enforcement agencies will also appear on all publications. When other agencies or project partners have provided support (through co - financing), logos should also appear in publications.

**Table 16** – Monitoring and Evaluation activity, Responsible Parties, Budget, and Timeframe.

<b>M&amp;E Type of activity</b>	<b>Responsible Parties</b>	<b>Budget (USD*)</b>	<b>Timeframe</b>
Inception workshop	UNDP Country Office	800	Within the first two months of Project start
Inception report	UNDP Country Office	None	Immediately after the inception workshop
Measurement of Means of Verification for Project Purpose Indicators	Project Manager	None	Beginning, half-way and completion of the project
Measurement of Means of Verification for Project Progress and Performance (annually measured)	Project Manager	None	Annually, previous to the annual report and in accordance with the definition of annual work plans
Quarterly reports	Project team	None	By the end of each month
Annual reports (PPR)	Project team MARN Country Office UNDP GEF Team	None	Annually, after inception workshop.
Project Coordination Committee meetings	Project Manager UNDP Country Office	None	After the inception workshop, and from there, at least on annual bases
Technical Reports	Project team External Consultants	None	To be determined by the Project Team and the UNDP Country Office in accordance to the project's work plan
Stakeholder engagement and ESS monitoring	Project team (Project Manager and Community Liaison Officer) MARN UNDP Country Office	125,000	Regularly
Midterm external evaluation	Project team UNDP Country Office External Consultants UNDP GEF Team	30,000	Halfway during project implementation
Final external evaluation	Project team UNDP Country Office External Consultants UNDP GEF Team	30,000	At project completion
Final Report	Project team UNDP Country Office UNDP GEF Team	None	At least a month before Project completion
Auditing	UNDP Country Office Project team FIAES	65,000	In accordance to UNDP financial regulations and rules and to applicable auditing policies. Includes and independent audit to FIAES of the resources managed via grants.
<b>Total Indicative Cost</b>		<b>250,800</b>	

**E.** Include a results framework for the project proposal, including milestones, targets and indicators, including one or more core outcome indicators of the Adaptation Fund Results Framework, and in compliance with the Gender Policy of the Adaptation Fund.

<b>Project objective:</b>	<b>Indicator</b>	<b>Baseline</b>	<b>End of Project Targets</b>	<b>Verification Mechanisms</b>	<b>Risks and Assumptions</b>
To reduce the	Number of households in	6,396 rural household	a) By the end of the project, 6,396 households (100% of	– Mid-term and final evaluation	– Communities interested in participating in community restoration planning

vulnerability of communities and of natural ecosystems in San Francisco Menendez to drought risk, soil erosion, and sudden onset of precipitation associated with climate change and variability.	San Francisco Menendez that are vulnerable to climate-related events (disaggregated by those headed by women)	s vulnerable (1152 headed by women)	rural households of which approximately 1152 are headed by women) in San Francisco Menendez benefitted from the project therefore, reducing vulnerability and increasing resilience of communities and natural ecosystems to climate variability and change.	<ul style="list-style-type: none"> <li>– Surveys and field reports</li> <li>– Vulnerability and risk assessments</li> <li>– Restoration and adaptation activity monitoring</li> </ul>	<ul style="list-style-type: none"> <li>– Communities implementing adaptation measures and knowledge generated through the project</li> <li>– Interest by local producers to adopt income diversification models</li> <li>– Decision-makers at all levels are willing to mainstream climate change considerations into planning and programming in a timely manner.</li> <li>– National climate observation unit will have the capacity to transform data into information</li> <li>– There are no substantial changes in the land use/cover caused by large scale natural disasters.</li> <li>– Changes in government do not significantly affect project implementation</li> </ul>
	Number of local livelihood diversification and income generation models systematized and consolidated for use by producers	0 - lack of diversification in agriculture, livelihood means	At least 6 technological packages and 3 market studies have generated local diversification models that have been transmitted to at least 80 small holder cooperatives, of which 16 are women cooperatives.		
	Development of climate information products that enhances adaptive capacities of communities	1 basic early warning alerts. This being at the national level only.	5 products based on improved capacity to measure and produce locally specific hydro meteorological alert products		
Access to adaptation planning instruments for municipalities	0	1 local adaptation plan developed and streamlined into municipal planning instruments			

**Component 1: Increased Climate Change resilience through Ecosystem-based Adaptation**

Outcome 1	Indicator	Baseline	End of Project Targets	Verification Mechanisms	Risks and Assumptions
Critical ecosystem services in forest landscapes are restored and enhanced to better manage climate change impacts	Hectares of land under restoration, helping reduce vulnerability to climate variability and change	23,635 Ha	By the end of the project implementation cycle, 3,864 ha of forest landscape will be under restoration  100% of productive area being managed through community restoration plans will have agro-silvopastoral practices implemented.	<ul style="list-style-type: none"> <li>– Final evaluation</li> <li>– Restoration and activity monitoring</li> <li>– Community restoration plan agreements</li> <li>– Monitoring of runoff using</li> </ul>	<ul style="list-style-type: none"> <li>– Community members accept and engage into restoration activities</li> <li>– Community members have the capacity to successfully implement agro-silvopastoral practices</li> <li>– Water committees and community members are engaged in developing appropriate water management interventions</li> </ul>

Output 1.1	Community restoration plans established for sustainable landscape management of 3,864 Ha of forest landscape	0	65 community restoration plans established with management agreements documented for sustainable landscape management	and sediment concentration using a combination of field surveys and satellite remote sensing imagery data on monthly/Interannual values TerraClimate, MODIS and Landsat.	<ul style="list-style-type: none"> <li>– Monitoring and tracking of restoration activities are done systematically.</li> <li>– MARN, through the National Environmental Observatory works on the monitoring of variables that can be used as proxies for progress towards reduced land degradation, better water availability, water flow regulation, increasing resilience to climate change in the intervention area.</li> </ul>
Output 1.2	Restoration of critical ecosystems within forest landscapes to improve ecosystem services for landscape climate resilience	0	Restoration of 284.52 Ha of riparian forests to improve ecosystem services for landscape resilience  Restoration of 141 Ha of mangrove forest to improve ecosystem services for landscape resilience		
Output 1.3	Critical forest landscape transition areas under sustainable productive management for enhanced climate resilience	0	2,708 Ha of agroforestry for basic grains established  664Ha of silvo pastoral systems established  67 Ha of Agroforestry systems for coffee and cacao established		
Output 1.4	Enhanced water flow regulation in the intervention areas as measured through community governance mechanisms	0	All community restoration plans will have improved water management and monitoring practices		

**Component 2:** Alternative and adapted livelihoods identified and made viable for resilient livelihoods

Outcome 2	Indicator	Baseline	End of Project Targets	Verification Mechanisms	Risks and Assumptions
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Local livelihood diversification and income generation models are implemented building local resilience to climate change	Number of productive groups (cooperatives and associations those favoring women producers) in San Francisco Menendez that benefit from the introduction of diversified agriculture, livelihood strategies and options	0	By the end of the project, 83 cooperatives (of which 16 favor women) will benefit from enhanced capacities generated by the extension support provided as a result of the project	<ul style="list-style-type: none"> <li>– Mid-term and final evaluation</li> <li>– Workshop and training participation list</li> <li>– Surveys and field reports</li> <li>– Information products generated by the project</li> </ul>	<ul style="list-style-type: none"> <li>– Local and regional planners, landowners, farmers, and local communities understand the value of diversifying agriculture and increasing options for livelihoods and income generation.</li> <li>– Environmental authorities and local communities work together to incorporate restoration approaches into productive systems</li> <li>– Communities, local stakeholders, productive associations and key institutional partners willing to join the effort to improve diversification of livelihoods</li> <li>– Enhanced market opportunities are placed strategically and feed into sustainable markets at the local, regional and national levels</li> </ul>
	Establishment of a local seed bank for access to locally appropriate seeds resilient to drought and flooding	0	1 local seed bank will be established in San Francisco Menendez to provide access to locally appropriate seeds resilient to drought and flooding		
Output 2.1	Number of alternative crops/practices introduced as result of project interventions	0	At least 6 climate resilient products/practices have been identified and packaged into technological packages. From these 1 favors women.		
Output 2.2	Number of high value market chains identified for diversified livelihoods strategies	0	Three market studies (are produced systemizing information on diversified livelihood are produced identifying entry points into new markets, increasing livelihood diversification in the intervention areas. From these, 1 market study is developed to target women producers, organizations and associations.		
<b>Component 3</b> Regional Climate and Hydrological Monitoring for Enhanced Adaptation Planning					
<b>Outcome 3</b>	<b>Indicator</b>	<b>Baseline</b>	<b>End of Project Targets</b>	<b>Verification Mechanisms</b>	<b>Risks and Assumptions</b>

Enhanced capacity to generate relevant climate and hydrological information to address the impact of climate change on natural resources in South Ahuachapán	Enhanced capacity of Observatorio Ambiental measured by the generation of improved climate products relevant at the local level  Geographical area with access to improved climate information services	0  0	5 new climate products developed by the Observatorio Ambiental targeted to South Ahuachapán. 1 knowledge product targeted to women.  98,016 people (disaggregated by gender) within the four municipalities of South Ahuachapán have access to climate information services	<ul style="list-style-type: none"> <li>- Final evaluation</li> <li>- Training attendance lists and databases</li> <li>- Products generated by the project</li> <li>- Assessment/count of the distribution, reach and variety of knowledge products that is produced by MARN and delivered to local associations and stakeholders in San Francisco Menendez.</li> </ul>	<ul style="list-style-type: none"> <li>- Monitoring equipment is received in a timely manner</li> <li>- Observatorio Ambiental has the capacity to correctly integrate new data, methods and information within its structure seamlessly</li> <li>- Observatorio Ambiental is willing to engage with local community to develop locally relevant products</li> <li>- Communities and stakeholders are willing to engage critically with new information</li> <li>- The Information generated is integrated effectively into national monitoring systems for restoration</li> </ul>
<b>Output 3.1</b>	Capacity to identify and monitor the impact of restoration actions in South Ahuachapán as effective EBA actions	0	1 Completed conceptual model of the ESA-01 aquifer, including hydric balances and aquifer recharge capacity  1 Hydrological flow assessment of the Rio Paz  Establishment of indicators to monitor the impact of restoration interventions as EBA (impact on aquifer and flow assessment)	Completed conceptual model  Completed hydrological flow assessment  Identified indicators integrated into monitoring systems  Final evaluation	-
<b>Output 3.2</b>	Uptake of generated hydro meteorological information	0	At least 40% of the rural population (51% of which are women) in the four municipalities in South Ahuachapán make use of the climate information being provided to the region	- Workshops and training reports;	-
<b>Component 4:</b> Strengthened inter-institutional coordination and local governance for landscape management in the face of climate variability and change					
<b>Outcome 4</b>	<b>Indicator</b>	<b>Baseline</b>	<b>End of Project Targets</b>	<b>Verification Mechanisms</b>	<b>Risks and Assumptions</b>

Local institutions and governance mechanisms with enhanced capacities to implement adaptation measures and manage climate change.	The incorporation of adaptation measures as identified by the local adaptation plan into municipal planning instruments.	0	Incorporation of climate adaptation measures into at least 1 municipal planning instrument in 4 municipalities located in South Ahuachapán	<ul style="list-style-type: none"> <li>- Project reports: annual reports, mid-term and final evaluations on interinstitutional integration</li> <li>- Completion of climate vulnerability assessment of the four municipalities in south Ahuachapán</li> <li>- Municipal planning instruments</li> <li>- Number of training and capacity building workshops for association and institutions active in San Francisco Menendez</li> </ul>	<ul style="list-style-type: none"> <li>- Analytical capacity, targeted towards understanding community and institutional demands is consistently integrated into MARNs' strategic planning</li> <li>- Continued commitment within relevant national institutions and actors to establish and develop better cross communication and integration of actions on the ground.</li> <li>- MARN will act as a key facilitator of dialogue and decision-making at different levels</li> <li>- MARN improves and continues on building its ability to work with other relevant institutions with flexibility/adaptability, and strategic focus, providing leadership on climate change adaptation and environmental issues</li> <li>- Political stability ensure proper institutional framework to facilitate and build inter-institutional coordination.</li> </ul>
<b>Output 4.1</b>	Number of municipalities with capacity to assess technical information and promote measures to manage climate change at a territorial level	0	4 municipalities benefiting from a TAC to assess and disseminate information (clearing house) for managing climate change at a territorial level		
<b>Output 4.2</b>	Planning tools developed to address climate vulnerabilities of Ahuachapán Sur	0	One climate vulnerability assessment of the four municipalities in south Ahuachapán. Vulnerability assessment considers how climate change impacts women.  One local climate adaptation plan of the four municipalities in south Ahuachapán		
<b>Output 4.3</b>	Enhanced capacity to capture climate finance from diverse sources and to identify adaptation investments	0	at least 5 local organizations with enhanced capacity to attract climate finance and identify adaptation projects. One local organization will target women.		



F. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

**Project Title: Resilience through Landscape Restoration in Ahuachapán Sur.**

**Implementing Partner: UNDP**

Component	Outputs	RESPONSIBLE PARTY	Budget code	Budget Description	Planned Budget by Year						Budget Notes
					Y1	Y2	Y3	Y4	Y5	TOTAL	
<b>Component 1: Ecosystem Based Adaptation through productive landscape management and restoration for enhanced resilience at a territorial level</b>	1.1 Landscape planning through community restoration plans for ecosystem based adaptation and landscape management 1.2. Forest landscape restoration is implemented to meet climate adaptation needs and improve ecosystem services  1.3. Promotion of Sustainable and Resilient Agriculture to Climate Change in critical ecosystems	FIAES	71400	Contractual Services-Individual	\$ 49,906.00	\$ 58,633.00	\$ 58,633.00	\$ 58,633.00	\$ 23,727.00	\$ 249,532.00	1A
			71600	Travel	\$3,400.00	\$4,390.00	\$4,390.00	\$4,420.00	\$3,400.00	\$20,000.00	1B
			72200	Equipment and furniture	\$34,000.00	\$-	\$-	\$-	\$-	\$34,000.00	1C
			72400	Communication & Audio Visual Equip	\$600.00	\$-	\$-	\$-	\$-	\$600.00	1D
			72500	Supplies	\$487.00	\$487.00	\$487.00	\$487.00	\$487.00	\$2,435.00	1E
			72600	Grants	\$515,467.70	\$1,023,593.10	\$2,037,440.10	\$516,354.46	\$-	\$4,092,855.36	1F
			73400	Rental&Maint of Other Equip	\$2,263.00	\$2,263.00	\$2,263.00	\$2,263.00	\$2,263.00	\$11,315.00	1G

			74200	Audiovisual & Print Prod Costs	\$3,508.00	\$2,256.00	\$2,176.00	\$820.00	\$820.00	\$9,580.00	1H
			75700	Training workshops and conferences	\$1,763.00	\$6,988.00		\$5,000.00		\$13,751.00	1I
			74100	Professional Services	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00		\$40,000.00	1J
			<b>Sub Total Component 1</b>		<b>\$621,394.70</b>	<b>\$1,108,610.10</b>	<b>\$2,115,389.10</b>	<b>\$597,977.46</b>	<b>\$30,697.00</b>	<b>\$4,474,068.36</b>	
<b>Component 2: Diversified products positioned in new markets for resilient livelihoods</b>	2.1 Identification of climate resilient products to sustain agrobiodiversity and promote diversified livelihoods 2.2 Diversified livelihoods positioned in new markets	MARN	71200	International Consultant	\$32,000.00	\$128,000.00	\$184,000.00	\$48,000.00	\$48,000.00	\$440,000.00	2A
			71300	Local consultant	\$-	\$22,000.00	\$27,500.00	\$33,000.00	\$27,500.00	\$110,000.00	2B
			71600	Travel	\$-	\$-	\$10,200.00	\$13,125.00	\$16,875.00	\$40,200.00	2C
			75700	Training workshops and conferences	\$5,000.00	\$10,000.00	\$3,600.00	\$20,000.00	\$25,000.00	\$63,600.00	2D
			72300	Materials & Goods	\$20,000.00	\$51,000.00	\$65,500.00	\$45,500.00	\$45,500.00	\$227,500.00	2E
			72100	Contractual Services - companies	\$-	\$18,000.00	\$187,000.00	\$-	\$-	\$205,000.00	2F
			<b>Sub Total Component 2</b>		<b>\$57,000.00</b>	<b>\$229,000.00</b>	<b>\$477,800.00</b>	<b>\$159,625.00</b>	<b>\$162,875.00</b>	<b>\$1,086,300.00</b>	
			<b>Component 3. Monitoring the impact of EBA on Regional Hydrology for Enhanced Capacity and Landscape management and adaptation planning</b>	3.1. Generating the capacity and knowledge to monitor EBA and restoration interventions in South Ahuachapán 3.2. Improved production and utilization of hydrological and climate information applied to decision-	MARN	71300	Local consultant		\$27,000.00	\$76,500.00	\$76,500.00
72200	Equipment and Furniture	\$400,250.00				\$-	\$-	\$-	\$-	\$400,250.00	3B

	making by stakeholders and local development agents										
			75700	Training workshops and conferences		\$8,400.00	\$35,000.00			\$43,400.00	3C
			72100	Contractual Services - companies		\$70,000.00		\$49,000.00	\$56,000.00	\$175,000.00	3D
			<b>Sub Total Component 3</b>			<b>\$400,250.00</b>	<b>\$105,400.00</b>	<b>\$111,500.00</b>	<b>\$125,500.00</b>	<b>\$134,000.00</b>	<b>\$876,650.00</b>
<b>Component 4. Strengthening of inter-institutional coordination and local governance for sustainable land management in the face of climate variability and change</b>	4.1 Establishment and consolidation of local mechanisms to strengthen governance of the territory 4.2 Enhancing capacities to articulate actions and mobilize financing for Ecosystem-based Adaptation 4.3 Local adaptation plans designed and included in the municipality's territorial planning.	MARN	71200	International Consultant	\$8,000.00	\$6,000.00	\$10,000.00	\$5,000.00	\$1,000.00	\$30,000.00	4A
			71300	Local consultant		\$12,000.00	\$12,000.00			\$24,000.00	4B
			71400	Contractual Services- Individual	\$65,000.00	\$65,000.00	\$65,000.00	\$65,000.00	\$65,000.00	\$325,000.00	4C
			71600	Travel	\$2,160.00	\$2,160.00	\$2,160.00	\$2,160.00	\$2,160.00	\$10,800.00	4D
			72200	Equipment and furniture	\$6,000.00	\$-	\$-	\$-	\$-	\$6,000.00	4E
			72300	Materials & Goods	\$3,000.00					\$3,000.00	4F

			72400	Communication & Audio Visual Equip	\$20,500.00	\$9,900.00				\$30,400.00	4G
			74200	Audiovisual & Print Prod Costs			\$2,720.00	\$5,440.00	\$5,440.00	\$13,600.00	4H
			72100	Contractual Services- Companies	\$75,300.00	\$77,300.00	\$26,000.00	\$36,150.00	\$11,250.00	\$226,000.00	4I
			75700	Training workshops and conferences	\$1,220.00	\$23,140.00	\$21,700.00	\$22,100.00	\$21,940.00	\$90,100.00	4J
			<b>Sub Total Component 4</b>		<b>\$181,180.00</b>	<b>\$195,500.00</b>	<b>\$139,580.00</b>	<b>\$135,850.00</b>	<b>\$106,790.00</b>	<b>\$758,900.00</b>	
<b>Project Management</b>		MARN	71400	Contractual services (individual)	\$80,000.00	\$80,000.00	\$80,000.00	\$80,000.00	\$80,000.00	\$400,000.00	5A
			71200	International Consultant			\$30,000.00		\$30,000.00	\$60,000.00	5B
			71600	Travel	\$2,400.00	\$2,400.00	\$2,400.00	\$2,400.00	\$2,400.00	\$12,000.00	5C
			72200	Equipment and furniture	\$6,000.00					\$6,000.00	5D
			74500	Miscellaneous	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$20,000.00	5E
			72800	Information Technology Equipmt	\$5,900.00					\$5,900.00	5F
			73100	Rental & Maintenance Premises	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$5,000.00	5G
			74200	Audiovisual & Print Prod Costs	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$5,000.00	5H
			74100	Professional services (audits)	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$25,000.00	5I
			74956	DPC	\$17,000.00	\$17,000.00	\$17,000.00	\$17,000.00	\$17,000.00	\$85,000.00	5J
						<b>Sub Total PMC</b>		<b>\$122,300.00</b>	<b>\$110,400.00</b>	<b>\$140,400.00</b>	<b>\$110,400.00</b>
<b>Total Programmable Grant</b>					<b>\$1,382,124.70</b>	<b>\$1,748,910.10</b>	<b>\$2,984,669.10</b>	<b>\$1,129,352.46</b>	<b>\$574,762.00</b>	<b>\$7,819,818.36</b>	

### Budget Notes

Budget Note	Description of cost item
1A	Service contract for: 1 Restoration Coordinator, 1 Financial Administrator for the disbursement and management of grant sources and 1 Knowledge Management Specialist to develop and coordinate output 1.4

1B	Travel costs for 5 years (local travel, gasoline, DSA) for monitoring and documenting community restoration plans includes an annual media tour from Y2-Y4
1C	Cost of: 3- work stations for restoration team to be located in San Francisco Menendez (desk, computer, phone, chair) at (USD 3000 each); 1- 4x4 vehicle to facilitate local travel (USD 25,000);
1D	1 professional camera to monitor and document restoration work (USD 600)
1E	General office supplies for restoration team and for workshops (USD 487 per year)
1F	Grants to be disbursed to local organizations for establishing and implementing community restoration plans. Grants will follow UNDP's Low – Value grants (also known as Micro-Capital Grants) policy and will be provided by FIAES through an open call process (Cost per Ha varies depending on technique estimates are USD 2,484,111.34 for a total of 2,708 Ha for agroforestry systems; USD 718,532.99 for a total of 664 Ha silvopastoral; USD197,372.89 for a total of 284.5 Ha of gallery forest; USD 228,547.57 for a total of 141 Ha of mangrove; USD 61,460.66 of 67 Ha of coffee). USD 402, 829.91 will be spent in financial costs incurred by FIAES in management and placement of grant resources (distribution amongst 4-year period: Y1 USD 54,214.52 Y2 USD 101,086.74 Y3 USD192,427.37 Y4 USD55,101.28)
1G	Annual costs for general vehicle maintenance including insurance, car licensing fees and GPS services
1H	Costs for publishing open calls and awards on local media (as established per FIAES norms for transparency); publishing costs for knowledge material (methodologies, results) derived from the community restoration plans
1I	Various workshops with communities and local organizations on the process of building community restoration plans, expected results and process; 1 Launch event and 1 event to inform on lessons learned from the restoration process with local and national stakeholders on results to ensure sustainability of actions
1J	Annual audit costs of grant funds managed by FIAES (Y1-Y4)
2A	International Consultants (4) on market chain integration and added value experts to provide capacity building to productive associations and organizations on value chain integration and added production value to develop studies documenting regional best practices in the production of agricultural products and practices with low environmental impact, high level of resilience and high socio-economic values. Products will result in the development of 6 technological packages and material for dissemination to productive associations (USD 320,000); (USD 30,000 per expert (4) total USD 120,000)
2B	6 local consultants hired to provide productive extension support to community restoration plans, cooperatives, and small land holders to help guide in integrating results from technological packages into actual productive processes (estimated USD 18,333 per consultant)
2C	Internal travel costs from productive sector to workshops and training events, for PMU team and consultants to provide extension support and for productive groups to promote product placement
2D	Training events and workshops targeted at productive associations, local cooperatives, and rural extension officers to disseminate results from technological packages and from market studies and to support seedbank management
2E	Materials for adapting 65 community spaces to house seedbanks including small scale construction, metal stands, wooden cabinets, glass jars, burlap, cooling equipment (fans, refrigerators). Estimated cost per seedbank is USD3,500 (total seedbanks 65 total cost USD 227,500)
2F	Design and budgeting of a certification course on adapted agro ecosystems and practices based on the study results, targeted to agricultural extension workers and productive associations (USD 40,000) and the development of 3 market studies (USD 55,000 per study total USD 165,000)
3A	Hiring 5 local consultants to enhance the work and capacities of the Observatorio Ambiental. 2 local consultants will provide support in integrating hydrological information and integrating it with meteorological information in Ahuachapán to develop relevant climate information products and enhance EWS systems (USD 75,000 per consultant for 2 years' work); 1 local consultant will work with the climate change team to develop a climate change Atlas for the region (USD 36,000 for 3 years' work); 2 local consultants will integrate data from new equipment and will provide maintenance support to observation system in the region (USD 36,000 per consultant for 3 years' work)
3B	1 automatic hydrometric station (USD 65,000), refurbishment of 2 existing hydrological stations located at Rio Paz (USD 200,000), 2 automatic hydro climatic stations (USD 65,000 per station), 1 drone for climate and restoration monitoring purposes (USD 5,250)
3C	Workshops directed at women to develop community capacity skills in hydrological monitoring (Cost per person USD 60 for 140 women trained) Training on remote sensing (CIS) to enhance capacities of the Observatorio Ambiental in using satellite information to complement and calibrate information from hydro climatic stations to measure soil moisture, etc. (USD35,000);

3D	Design conceptual model of the ESA 01 Aquifer including analysis of recharge areas from superficial water sources (USD 55,000); End user surveys and studies to develop climate information products including technical support to train end users on the use of climate products (USD 120,000)
4A	International consultant (1) to support in the assessment of climate vulnerabilities in Ahuachapán Sur (USD 10,000); Hiring 2 consultancies for local organizations to enhance their capacity in attracting international and private resources including governance (USD 20,000)
4B	Hiring 2 local consultants to provide support to FIAES in streamlining and incorporating ISO standards for project managing processes to enhance their capacity to manage international adaptation projects (USD 12,000 per consultant). Hiring 2 local consultants for in field gender analysis development and monitoring (USD 12,000 per consultant)
4C	Service contract for: 1 Governance Coordinator to provide legal and technical support to the TAC, municipalities, and local community organizations (USD 200,000) and for 1 Community Liaison Officer to ensure stakeholder engagement including women and vulnerable groups are integrated with the work carried out by the municipalities and is integrated and articulated within the TAC and during the local adaptation planning (USD 125,000).
4D	Internal travel costs for governance coordinator, community liaison officer and TAC members to events, meetings, project monitoring and stakeholder engagement
4E	2 work stations (computer, desk, chairs, phone) for community liaison officer and governance coordinator (USD 3000 per station)
4F	Monitoring and evaluation equipment to enhance FIAES' capacity to monitor impact of projects through demonstrative plots (digital PH monitor, GPS, salinity measuring equipment, equipment for use in mangrove area, etc.)
4G	Licenses for Geographic Information Software (3) to enhance monitoring capacities of FIAES (USD 10,000 each); 1 projector (USD 400)
4H	Printing of knowledge management material including vulnerability assessment developed and local adaptation plans
4I	1 Institutional gap analysis for FIAES and local organizations in managing international climate funds (USD 15,000); Cost of Certification ISO 9001:2015 in Project Management to FIAES (USD 6,000); Comprehensive capacity building program in the design of adaptation projects for FIAES and local organizations (USD 30,000); 2 trainings on Monitoring, Report and Verification of Adaptation Projects directed at FIAES and local organizations (USD 7,500 each); Capacity analysis of existing environmental management organizations in the region to gauge financial, fiduciary, managing and governance. This analysis will assign values and provide key recommendations in terms of weaknesses and identify the organizations with the strongest capacity to attract and manage climate funds from diverse sources (USD 25,000); 1 study on the design, structuring and legal frameworks required for developing a local environmental fund and identifying the ideal local mechanism (organization) to house it with key recommendations (USD 15,000); 1 training directed at local organizations and FIAES in the design of investments strategies appropriate for local organizations in the attractions of climate finance (USD 10,000); 1 local vulnerability assessment for the 4 municipalities in Ahuachapán Sur (USD 55,000); 1 local adaptation plan for Ahuachapán Sur (USD 55,000)
4J	Workshops directed at local community organizations and stakeholders as part of the process of the adaptation planning process, to disseminate lessons from project, and to enhance capacities for communities on climate change management and project development (USD 7,600). Training and capacity building to municipal authorities and TAC members in climate change, climate change information, adaptation options, legal frameworks for territorial management (4 trainings at USD 20,000 each). Supplies for workshops and TAC meetings (USD 2,500).
5A	Service contract for: 1 Project Manager (USD 250,000) and 1 Project Administrative Assistant (USD 150,000)
5B	Cost of developing 1 mid-term and 1 terminal evaluations (USD 30,000 each)
5C	Local travel for project manager and PMU team
5D	2 work stations (computer, desk, chairs, phone) for community liaison officer and governance coordinator (USD 3000 per station)
5E	Project miscellaneous costs (office and unforeseen expenses within the project)
5F	1 multifunctional printer (USD 1000) and software licenses for Office and Antivirus programs for PMU team (USD 4,900)
5G	Annual office maintenance costs (housekeeping, etc.) (USD 1000 for 5 years = USD 5000)
5H	Costs for publishing project information developing general
5I	Annual audits for project
5J	Financial and administrative services provided by UNDP (LOA)

**G. Include a disbursement schedule with time-bound milestones.**

	Upon signature of Agreement	Upon signing of agreement for Year 1 activities	Year 2	Year 3	Year 4	Year 5	Total
Scheduled date	January 2, 2020	January 2, 2020	January 2, 2021	January 2, 2022	January 2, 2023	January 2, 2024	
Project Funds		1,382,125.00	1,748,910.00	2,984,669.00	1,129,353.00	574,762.00	7,819,819.00
Implementing Entity Fees	265,874.00	70,488.00	89,194.00	152,218.00	57,597.00	29,313.00	664,684.00
<b>Total</b>	<b>265,874.00</b>	<b>1,452,613.00</b>	<b>1,838,104.00</b>	<b>3,136,887.00</b>	<b>1,186,950.00</b>	<b>604,075.00</b>	<b>8,484,503.00</b>

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

### A. Record of endorsement on behalf of the government:

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

<p><i>Fernando Andrés López Larreynaga, Minister of Environment and Natural Resources</i></p>	<p>Date: June 20th, 2019</p>
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### B. Implementing Entity Certification Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme</p>	
<p>Name &amp; Signature Implementing Entity Coordinator</p>	
<p> Pradeep Kurukulasuriya Executive Coordinator &amp; Director – Global Environmental Finance Bureau for Policy and Programme Support (BPPS)/Global Policy Network United Nations Development Programme</p>	
<p>Date: 4 July 2019</p>	<p>Tel. and email: <a href="mailto:Pradeep.kurukulasuriya@undp.org">Pradeep.kurukulasuriya@undp.org</a></p>
<p>Project Contact Person:</p>	<p>Montserrat Xilotl (RTA)</p>
<p>Tel. And Email:</p>	<p><a href="mailto:Montserrat.xilotl@undp.org">Montserrat.xilotl@undp.org</a></p>

## **Acronyms**

ADESCO: Asociación de Desarrollo Comunitaria

AECI: Office of the Spanish Agency for International Cooperation

CCAD: Comisión Centroamericana de Ambiente y Desarrollo

CENTA: Centro Nacional de Tecnología Agropecuaria y Foresta

CONASAV: Consejo Nacional de Sustentabilidad Ambiental y Vulnerabilidad

CRS: Catholic Relief Services

DIGESTYC: Dirección General de Estadística y Censos

"EAAMCC: la Estrategia Ambiental de Adaptación y Mitigación al Cambio Climático del Sector Agropecuario, Forestal, Pesquero y Acuícola"

EBA: Ecosystem-Based Adaptation

ECLAC: Economic Commission for Latin America and the Caribbean

EWS: Early Warning Systems

FAO: Food and Agriculture Organization of the United Nations

FIAES: Fondo de la Iniciativa para las Américas

FUNDESYRAM: Fundación para el Desarrollo Socioeconómico y Restauración Ambiental

GCF: Green Climate Fund

GEF: Global Environment Facility

GHG: Greenhouse Gas

GIZ: Deutsche Gesellschaft für Internationale Zusammenarbeit

IPCC: Intergovernmental Panel on Climate Change

ISDEM: Instituto Salvadoreño de Desarrollo Municipal

IUCN (UICN): International Union For the Conservation of Nature

MAG: Ministry of Agriculture and Livestock

MARN: Ministry of Environment and Natural Resources

MODIS: Moderate Resolution Imaging Spectroradiometer

NOAA: National Oceanic and Atmospheric Administration

ONU: Organización de las Naciones Unidas

PNCC: Plan Nacional de Cambio Climático

POA: Plan Operativo Anual

PRISMA: Programa Salvadoreño de Investigación sobre Desarrollo y Medio Ambiente

RECLIMA: Escalamiento de la resiliencia climática en los agroecosistemas del Corredor Seco de El Salvador

REDD: Reduce Carbon Emissions from Deforestation and Degradation

ROAM: Restoration Opportunities Assessment Methodology

UNDP: United Nations Development Programme

UNES: Unidad Ecológica Salvadoreña

USAID: United States Agency for International Development

WRI: World Resources Institute

## **LIST OF ANNEXES**

**Annex A: Alignment of Project Objectives/Outcomes with Adaptation Fund Results Framework**

**Annex B: Social and Environmental Screening Template**

**Annex C: Environmental and Social Management Plan with Stakeholder Engagement and Gender Action Plan**

## Annex A

### A. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) <sup>37</sup>	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
To reduce the vulnerability of communities and of natural ecosystems in San Francisco Menendez to drought risk, soil erosion, and sudden onset of precipitation associated with climate variability and change.	Number of households in San Francisco Menendez that are vulnerable to climate-related events)	<b>Outcome 1:</b> Reduced exposure to climate-related hazards and threats  <b>Outcome 5:</b> Increased ecosystem resilience in response to climate change and variability-induced stress	2.2. Number of people with reduced risk to extreme weather events	USD 7,591,318
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	
1. Critical ecosystem services in forest landscapes are restored and enhanced to better manage climate change impacts	Hectares of land under community restoration plans, helping reduce vulnerability to climate variability and change	<b>Output 5:</b> Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	<b>5.</b> Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	USD 4,500,000
2. Local livelihood diversification and income generation models are implemented building local resilience to climate change	Number of households in San Francisco Menendez that benefit from the introduction of diversified agriculture, livelihood strategies and options.	<b>Output 6:</b> Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	<b>6.2.</b> Percentage of targeted population with sustained climate-resilient alternative livelihoods	USD 858,800
3. Enhanced capacity to generate relevant climate and hydrological information to address the impact of climate change on natural resources in South Ahuachapán	Number of people/ geographical area with access to improved climate information services	<b>Output 3:</b> Targeted population groups participating in adaptation and risk reduction awareness activities	<b>3.2.</b> Percentage of targeted population applying appropriate adaptation responses	USD 920,400

<sup>37</sup> The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

<p>4. Local institutions and governance mechanisms with enhanced capacities to implement adaptation measures and manage climate change. .</p>	<p>Number of municipalities with capacity to assess technical information and promote measures to manage climate change at a territorial level Planning tools developed to address climate vulnerabilities of Ahuachapán Sur</p>	<p><b>Output 7:</b> Improved integration of climate-resilience strategies into country development plans</p>	<p><b>7.1.</b> No., type, and sector of policies introduced or adjusted to address climate change risks</p>	<p>USD 755,000</p>
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