ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I. PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular Project
Country:	Nicaragua
Title of Project/Programme:	Climate Resilience and Livelihoods in the Nicaraguan Dry Corridor (CRLNDC)
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	Food and Agriculture Organization of the United Nations (FAO)
Executing Entity/ies:	Ministry of Environment and Natural Resources (MARENA)
Amount of Financing Requested:	10,000,000 (in U.S Dollars Equivalent)

A. Project / Programme Background and Context

Geography and climate context

1. Nicaragua's surface territory is of 130 373 km2 and stretches from the Caribbean Sea in the east to the Pacific Ocean in the west, bordering to the north with Honduras and the south with Costa Rica. The country is divided into 15 provinces and two autonomous regions, which in turn are subdivided into 153 municipalities.

2. The territory consists of three large regions with well-defined features as regards soils, topography and climate. The Pacific region takes up 15% of the land and its soils are very fertile, as they contain recent volcanic ash distributed over extensive plains. The mountainous central region covers 35% of the surface and is hilly, with small valleys resting between the mountains and heights ranging from 400 to 1 500 m.a.s.l. The soils in general are originated from tertiary volcanic rocks and have high productive potential. Finally, the Caribbean region is the largest, and comprises approximately 50% of the country. Its topography is gentle and flat, being made up of acidic soils derived from tertiary volcanic rocks and sediments. Their fertility is low.

3. Due to the trade winds and the landscape's geographic features, rainfall varies widely, ranging from 800 mm to over 5 000 mm. In the Pacific region there are a well-defined rainy season (May to October) and a dry season that extends from November to April. Annual average rainfall ranges between 1 000 mm and 2 000 mm, with a dry spell known as the "*canícula*" at about mid-rainy season (MARENA, 2018)[1].

4. In the central region the rainy and dry seasons are also well-defined and take place during the same months as on the Pacific side. However, the mountainous relief significantly reduces average yearly rainfall, which may vary from 800 mm in the valleys to 2 500 mm on the eastern slopes of the mountain range (MARENA, 2018)[2].

5. As a result of its geographic features, Nicaragua's thermal regime also varies. Average annual temperature fluctuates from less than 23°C to over 29°C. Maximum temperatures reach between 30.6°C and 42°C, while the lowest are between 10°C and 18°C (MARENA, 2018)[3]. In the Pacific region, temperatures sometimes reach above 37ºC, but the average temperature is inferior to 35°C. In the central region, the temperatures range from 23°C to 36°C, the mean being 31°C, while on the Caribbean Coast temperatures may reach 34°C, with a mean

[1] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change
[2] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change
[3] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

of 31°C (Rodríguez, J. et. al, 2019)[4].

6. Nicaragua's geographic position means it receives a large amount of incident solar radiation, with relative humidity oscillating between 60% and 90%. The Pacific region is the driest and hottest, with minimum yearly values between 64% and 70%, while on the Caribbean side the maximum values vary from 80% to 90% (MARENA, 2018)[5].

7. Nicaragua has the National Human Development Plan 2018-2021 (PNDH), which defines the priorities for the fight against hunger and poverty. The PNDH defines as one of its axes the sustainable management of natural resources and climate change. The country's policy framework has recently been updated, including the Nationally Determined Contribution (NDC), firstly presented in September 2018. In January 2019, Nicaragua presented the Reference Levels of Emissions from Deforestation and Forest Degradation (NREF) for the period 2005-2015[6] and in February 2019, it approved the National Policy for Mitigation and Adaptation to Climate Change (PNMACC) and Creation of the National System Response to Climate Change (SNRCC).

Socio-economic and environmental context

8. Data from the 2020 Global Report on the Food Crisis indicate that, by October 2020, some 300 000 Nicaraguans (4.6% of the country's total population) suffered from acute food insecurity related to extreme droughts (FSIN and Global Network Against Food Crises, 2020)[7].

9. The context in 2021 is the result of a double external shock that the country has suffered: the first due to the negative effects of COVID-19, that are reflected in the decline in economic indicators; secondly, the impact of hurricanes ETA and IOTA in November 2020 whose damages add up to a grand total of USD 738.6 million, equivalent to 5.9% of Gross Domestic Product (MHCP 2021)[8].

10. Around 40% of the Nicaraguan population lives in rural areas and depends on a subsistence economy based on agriculture and animal husbandry.

11. Agriculture is the economic sector with the third largest contribution to GDP with 8.5% in the third quarter of 2020. Livestock ranks fifth with 5.9% and, together, they represent 14.4% of GDP (Nicaragua Central Bank, 2020)[9]. These data underscore the importance of the agricultural and livestock sectors as providers of wealth and employment, and imply an exposure of the national economy to the direct impact of climate change.

12. During the period between 2000 and 2015 the country lost 100 815 hectares of forestland each year. The direct causes of deforestation are related to the expansion of the agricultural frontier. It is estimated that approximately 84% of this change in soil use can be attributed to extensive cattle-ranching (MARENA, 2020)[10].

Climate projections

13. The Fifth IPCC Report (2014) notes it is likely that regional rainfall variability related to the *El Niño* phenomenon will increase. Karmalkar *et al*. (2011[11]), cited by IPCC (2014), project changes in rainfall ranging from between –24% to –48%, accompanied by a rise in temperatures of between +4°C and +5°C for the Central American countries, for a scenario 2 (PRECIS forced with HADCM3). For their part, Campbell *et al.* (2011[12]), using the

[4] Rodríguez, J., Thomas, T. S., Cenacchi, N, Rios, A. R. (2019). Climate Change, Agriculture, and Adaptation Options for Nicaragua

[5] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

[6] See publication of NREF at the following link: https://redd.unfccc.int/files/nref_nacional_vf_170119.pdf

[7] FSIN and Global Network Against Food Crises (2020). Global Report on Food Crises 2020

[8] Ministerio de hacienda y crédito público (MHCP). (2021). Análisis socio-ambiental para la implementación del componente de contingencia para respuesta a emergencias (CERC) / respuesta a los huracanes ETA e IOTA

[9] Banco Central de Nicaragua (BCN) (2020). Informe Anual

[10] MARENA (2020). Updated Nationally Determined Contribution (Contribucion nacionalmente determinada, actualizacion 2020)

[11] Karmalkar, A.V., Bradley, R.S. & Diaz, H.F. Climate change in Central America and Mexico: regional climate model validation and climate change projections. Clim Dyn 37, 605 (2011). https://doi.org/10.1007/s00382-011-1099-9

[12] Campbell, J. D., Taylor, M. A., Stephenson, T. S., Watson, R. A., Whyte, F. S. (2011). Future climate of the Caribbean from a regional climate model. Int. J. Climatol., 31, 1866—1878, https:// doi.org/10.1002/joc.2200

same scenario and model, project changes in rainfall for Nicaragua at between -25% to -50% and +25% to +50%, with temperatures rising between +3°C and +6°C.

14. In line with the projections made by Campbell *et. al* (2011), a study commissioned by ECLAC the same year pointed out that in a scenario of global emissions inferior to the current tendency and using the HADCM3 model, by the year 2100 (IPCC scenario B2), the average annual temperature in Nicaragua could increase 3.1%. In scenario A2, and at the current level of growth in emissions, the temperature could increase by 4.2%.

15. The expected trajectory as concerns rainfall levels is more uncertain. Under global emissions scenario B2, by the year 2100 rainfall would diminish by 17%, while under scenario A2 the drop may be as high as 35% (ECLAC, 2011)[13].

16. Figures 1 and 2 show the yearly mean temperature and rainfall, respectively, both in the current countrywide scenario, based on average data for the 1970 – 2000 period (Fick, S. *et al.* 2017)[14].

17. The regionalized projections[15] for mean air temperature in Nicaragua, made by the Nicaraguan Institute of Territorial Studies (INETER) for scenario RCP4.5 and the 2021 – 2040 period, forecast a mean temperature of between 26°C and 28°C for most of the Caribbean Coast. For the period 2041 – 2060, warming is foreseen throughout the country, with the mean temperature rising from 28°C to 30°C.

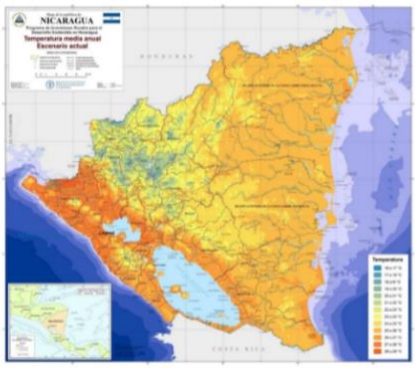

Figure 2. Mean yearly temperature in the current scenario

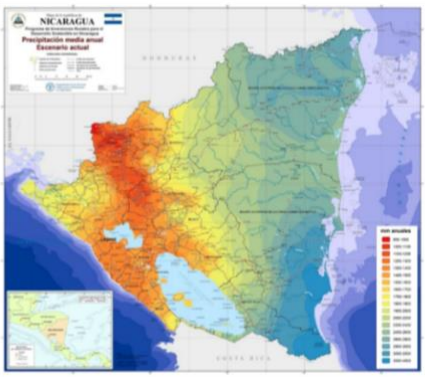

Figure 1. Mean yearly rainfall in the current scenario

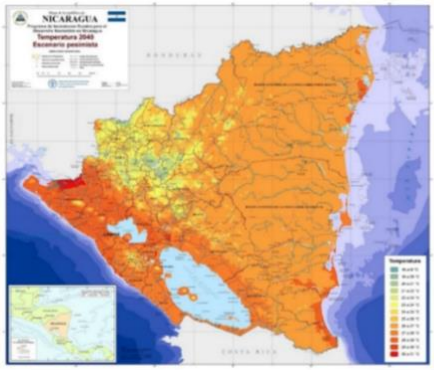

Figure 3. Temperature forecast for the year 2040, pessimistic scenario

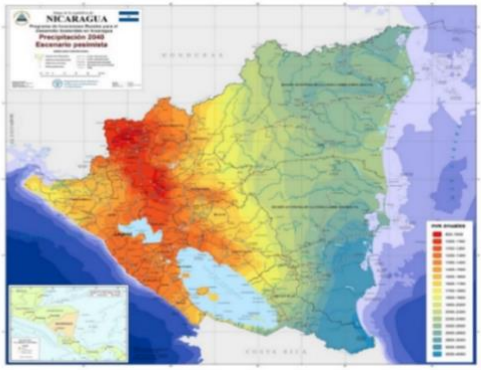

Figure 4. Rainfall forecast for the year 2040, pessimistic scenario

18. For scenario RCP8.5 in the 2081–2100 time horizon, warming can be observed everywhere. These changes in

[13] CEPAL (2011). La economía del cambio climático en Centroamérica Reporte técnico 2011
[14] Fick, S.E. and R.J. Hijmans (2017). WorldClim 2: new 1-km spatial resolution climate surfaces for global land areas
[15] Obtained from the regionalization of global GCM or regional RCM models

mean temperature will lead to higher and more frequent extremes than those observed currently.

19. Figure 3 shows a temperature projection to the year 2040 in a pessimistic scenario, while Figure 4 illustrates a pessimistic rainfall projection for that same year.[16]

20. The regionalized projections for accumulated rainfall produced by INETER indicate that for scenario RCP4.5 in the period 2021 – 2040 a clear gradient showing less rainfall can be observed, ranging from between 2 500 to 3 000 mm in the South Caribbean Coast Autonomous Region (RACCS) and increasing as it moves south, where current accumulated rainfall is of 5 000 mm. For the period 2081 – 2100 there is an overall decline in rainfall, above all on the northern seaboard of the North Caribbean Coast Autonomous Region (RACCN).

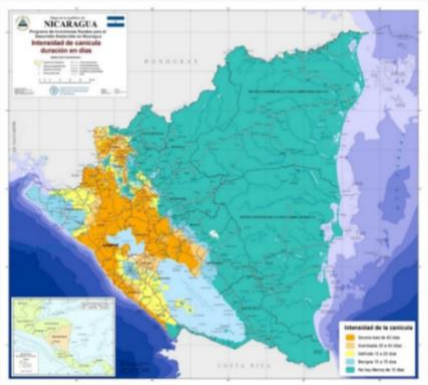

Figure 5. Intensity of the dry spell nationwide (duration in days)

21. In scenario RCP8.5, the period 2021 – 2040 indicates that there will be substantial changes when compared to scenario RCP4.5, especially as regards the seaboard from the southernmost point of the country almost to Los Patos Lagoon, where rainfall are expected to exceed 5 000 mm, while the RCP4.5 scenario shows that the area with the highest accumulated rainfall practically ends in Bluefields.

22. It is foreseen that, during the period 2018 – 2100, there will be a significant drop of between 1 400 mm and 1 800 mm in accumulated rainfall along the entire Caribbean Coast. The areas with rainfall higher than 5 000 mm will be reduced to the Indio-Maíz Biological Reserve, and a limited area south of Bluefields Bay. These declines in rainfall may exert an important influence on the communities that live on the Caribbean seaboard. The Dry Corridor has an average yearly rainfall of 800 mm, which in some parts can be as low as somewhere between 500 and 600 mm. When there are *El Niño* years, for example, rainfall may drop by 30% to 40%, including long heat waves during which there is almost no rain at all. In such years, the Dry Corridor area can grow by as much as 8 000 km^2 and affect approximately 60 municipalities (MEFFCA, 2018)[17]. Figure 5 reflects the intensity of the dry spell (duration in days) for the entire country.

Country vulnerability to climate change

23. Nicaragua is considered the sixth most vulnerable country to climate change in Latin America and the Caribbean and has been classified in the “extreme risk” category (CAF, 2014)[18]. The main phenomena that modulate climate variability and extreme events are *El Niño* and *La Niña*, which translate into severe impacts caused by droughts during the former and flooding and landslides when the latter occurs.

24. According to the Third National Communication (MARENA, 2018)[19], the future scenarios shown in the Fifth IPCC Reports, adjusted to the country’s conditions, indicate that of 153 municipalities in the country, 48 are

[16] Downscaled data of three models (CanESM5, MRI-ESM2-0 and CNRM-CM6-1) derived from the coupling of CMIP6 models. The data were calibrated with the WordClim v 2.1 baseline. The scenario used for the year 2040 is the SSP585

[17] Ministerio de economía familiar, comunitaria, cooperativa y asociativa (MEFCCA). (2018). Agricultura Resiliente al Clima en el Corredor Seco de Nicaragua

[18] CAF (2014). Vulnerability Index to climate change in the Latin American and Caribbean Region

[19] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

exposed to drought, 33 to flooding and 21 to hurricanes.

25. Meteorological events such as hurricanes, floods and droughts have increased in frequency and intensity, due to climate change. It is calculated that in Nicaragua 1.6 million persons are exposed to hurricanes, while severe droughts may affect some 300 000 persons, a number which may grow during *El Niño* years. To the rainfall patterns, events such as floods and mudslides must be added, both of which have a high probability of affecting rural populations. The levels of exposure of rural populations to these phenomena and their limited response capacity mean that Nicaragua is a highly vulnerable country (INETER, 2018)[20].

Losses and damages

26. Between 1980 and 2013 a total of forty climate-related events were recorded. Taken together, they caused economic losses in excess of USD 3 265 billon, equivalent to an annual loss of 1.2% of GDP, with over 2.7 million persons affected (CAF, 2014)[21].

27. Two hurricanes struck Nicaragua in 2020. The first of these was Hurricane Eta, a category 4 storm that hit the North Caribbean Coast Autonomous Region (RACCN) on 3 November. Ten days later, Hurricane Iota, even stronger at category 5, slammed into the same region, affecting more than three million people nationwide. It was estimated that taken together these events caused losses and damages worth over USD 738 million, equivalent to 6.2% of GDP (MARENA, 2020)[22]. The losses associated with Hurricane Felix in 2007 were calculated at USD 883 million (CEPAL, 2011)[23].

Impacts of climate change on the agriculture sector

28. A study on the vulnerability to climate change and its economic impact on the agricultural sector in Latin America and the Caribbean (Prager *et. al*., 2020)[24], evaluated future climate impacts, using nine general circulation models[25] selected for their robust performance in the region. It is foreseen that temperatures will increase by between 1°C and 4°C in the region. In Nicaragua, projected changes in rainfall will vary considerably, depending on the season and part the country. A strong decrease in rainfall is projected for the summer months of June to August, with a less pronounced drop in September to November (see Figure 6).

29. High temperatures early in the rainy season, when farmers sow their seeds for the first agricultural cycle, tend to limit yields, a situation that may worsen as temperatures climb due to climate change. Further, the high temperatures found at less than 300 m.a.s.l. limit the sowing and harvesting of red beans (a staple food in Nicaragua). For its part, maize is notoriously sensitive to heat, and the temperatures in low-lying areas, which are already sufficiently high to cause a drop in yields, will no doubt exacerbate the situation as they continue to rise because of climate change (Rodríguez, J. *et. al,* 2019)[26].

30. It is projected that during the period from December to February there will be an increase in rainfall in the coastal zones on the Pacific side, in particular in the provinces of Chinandega and León, while decreasing in the interior and southeast of the Caribbean Coast. In the period from March to May, the pattern is inverted, with a drop in rainfall projected along the Pacific Coast and in increase in the interior and southeast of the Caribbean side. It is foreseen that maximum and minimum temperatures will increase between 1° and 3°C throughout the year, with the largest increases being along the coastal areas (Prager *et. al*., 2020)[27].

[20] Instituto Nicaragüense de Estudios Territoriales (INETER)(2018). Datos Geográficos de Nicaragua. Dirección de Geodesia y Cartografía.
[21] CAF (2014). Vulnerability Index to climate change in the Latin American and Caribbean Region
[22] MARENA (2020). Updated Nationally Determined Contribution
[23] CEPAL (2011). La economía del cambio climático en Centroamérica Reporte técnico 2011.
[24] Prager, S., Rios, A.R., Schiek, B., Almeida, J.S., Gonzalez, C.E. (2020). Vulnerability to climate change and economic impacts in the agriculture sector in Latin America and the Caribbean
[25] The nine general circulation models are as follows: BCC-CSM1, BNU_ESM, CCCMA_CANESM2, GFLD_ESM2G, INM-CM4, IPSL-CM5A-LR, MI- ROC-MIROC5, MPI-ESM-MR and NCC-NORESM1-M.
[26] Rodríguez, J., Thomas, T. S., Cenacchi, N, Rios, A. R. (2019). Climate Change, Agriculture, and Adaptation Options for Nicaragua
[27] Prager, S., Rios, A.R., Schiek, B., Almeida, J.S., Gonzalez, C.E. (2020). Vulnerability to climate change and economic impacts in the agriculture sector in Latin America and the Caribbean

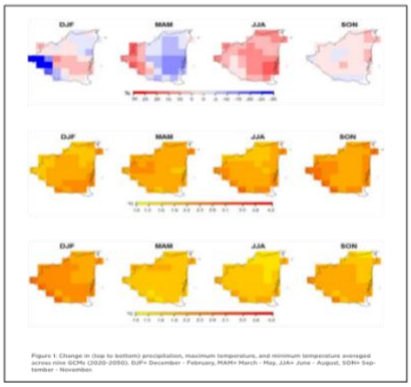

Figure 6. Future Climate Impacts (Prager et al., 2020)

31. Based on the projected changes, forecasts were modelled for maize, rice, red bean and soybean yields, using the Decision Support System for Agrotechnology Transfers (DSSAT v4.5) at a spatial resolution of 0.5 degrees. The parameters for execution of the models for each crop were set by using genetic coefficients of varieties carefully selected by experts for their relevance in the region. The results of crop modelling in Nicaragua shown in Figure 7 suggest it is likely that both the rainfed and irrigated maize and beans systems will see a decline in average yields when compared to scenarios without further climate change (Prager et. al., 2020)[28].

32. The geographic view shown in Figure 8 indicates that the maize and beans systems in the north-western coastal region, specifically in the provinces of Chinandega and León, may find themselves particularly affected, with mean yields falling by 20% or more beneath a baseline without climate change. The higher decrease projected for irrigated as compared to rainfed crop yields is due to the concentration of irrigated agriculture in these vulnerable zones. The rainfed maize and beans systems are found mainly in the interior, where it is considered that the impacts of climate change will be relatively less severe. Meanwhile, the potential yield for rainfed and irrigated rise shows relative resistance everywhere in the country, and it is in fact foreseen there may an increase in yields in several areas, especially in the inland (Prager *et. al*., 2020)[29].

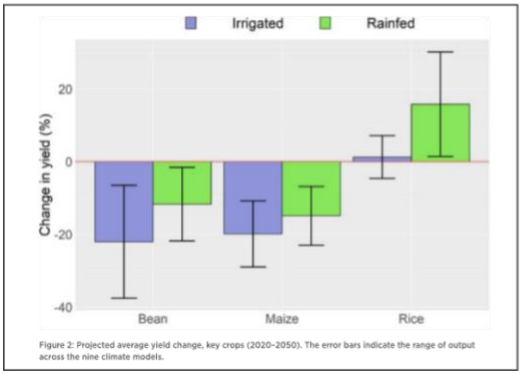

Figure 8. Projected average yield change, key crops (2020-2050). The error bars indicate the range of output across the nine climate models

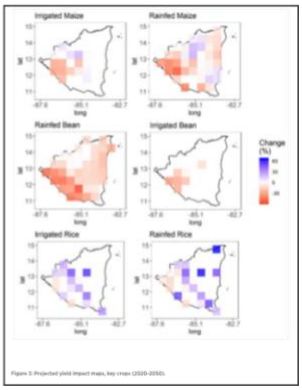

Figure 7. Projected yield impact maps, key crops (2020-2050)

33. Considering there will be a population increase, the demand for water could grow by almost 300% by the year 2050 and 1 600% by 2100, according to a trend scenario with no saving measures and no climate change. However, if there is climate change, the demand for water could increase by 20% more than in this baseline scenario (B2) and 24% more in scenario A2. Total availability of renewable water could diminish by 35% with

[28] Prager, S., Rios, A.R., Schiek, B., Almeida, J.S., Gonzalez, C.E. (2020). Vulnerability to climate change and economic impacts in the agriculture sector in Latin America and the Caribbean

[29] Prager, S., Rios, A.R., Schiek, B., Almeida, J.S., Gonzalez, C.E. (2020). Vulnerability to climate change and economic impacts in the agriculture sector in Latin America and the Caribbean

B2, as compared to current availability, and by 63% with A2 in 2100. In those scenarios, Nicaragua would be one of the most affected in the region. The combination of changes in demand and availability on the one hand and climate change on the other generates a possible intensity in water use by 2100 of 36% for the region in a scenario without climate change, of 140% with B2 and of over 370% with A2 if no adaptation and saving measures are taken (CEPAL, 2011)[30].

Capacity to adapt to climate change in the agriculture sector

34. The economic dependency on the agriculture sector is a disadvantage for the country, and several projections indicate that crop yields and their viability will be very much affected by climate change. For this reason, it is important to begin adapting to changing conditions. The sensitivity to variation in patterns of temperature, humidity and rainfall may influence crop components such as soil fertility and its capacity to retain water. Location may also become an issue, if there are changes in the adequacy of certain places for growing particular crops (CAF, 2014)[31].

35. The country produces a significant percentage of the food consumed by its population (mainly beans, maize, milk, beef and poultry). Around 65% of the food grown depends upon rainfall (rainfed agricultural systems). Maize yields, for instance, are less than 2 t/ha, and many smallholders produce only 1 t/ha. Climate irregularities, such as droughts and floods, can reduce harvests by 50%, possibly leading to nationwide food scarcity (Rodríguez, J. *et. al,* 2019)[32].

36. The increase in yields among rainfed crops could have a substantial impact on food security, especially in the cases of smallholder farmers (Rodríguez, J. *et. al,* 2019)[33]. The changing conditions for growing crops could open spaces for the spread of pests and diseases. In this scenario, capacity and agricultural outreach services intended to improve knowledge and skills among local producers, sustainable soil and water management practices, forest conservation and biodiversity are critical to maintaining capacities in the sector.

The Nicaraguan Dry Corridor

37. The Nicaraguan Dry Corridor is part of the Central American Dry Corridor which extends from the Pacific Coast of Guatemala to Costa Rica and the so-called Dry Arch in Panama. The criteria used for its demarcation is based on zones where dry season is longer than four months (Rojas, O., 2020)[34]. In Nicaragua, the Dry Corridor comprises 21% of the national territory and most of the country's central region. It comprises 64 municipalities (42% of the 153 nationwide) and 37% of the rural population live in these. Of these, around 60% live in conditions of extreme poverty (MEFFCA, 2018)[35]. There are some 67 000 farms in the Dry Corridor, of which 46% are smaller than 2 ha and most of these smallholders practice subsistence agriculture.

38. Most of the project's area of intervention corresponds to a livelihood zone based on subsistence farming activities and alternative economies (extraction and sale of firewood, artisanal production of mud derivatives and sale of labor in agribusiness and agricultural companies to complement families' income). It is an area with intensive systems of basic grains (corn, beans and sorghum), vegetables and coffee. Chickens and pigs are also raised, mostly for consumption and, in a lesser degree, to obtain cash. Although the Pan-American Highway crosses the area, the distances from the most isolated areas to the markets are great, which limits the frequency with which farmers can attend them and makes them depend on intermediaries for the sale of their surpluses. The shortage of rainfall and / or the irregular rainfall, together with the limited coverage of irrigation systems, particularly in subsistence farms, limit productivity and reduce the availability of food for family

[30] CEPAL (2011). La economía del cambio climático en Centroamérica Reporte técnico 2011.

[31] CAF (2014). Vulnerability Index to climate change in the Latin American and Caribbean Region

[32] Rodríguez, J., Thomas, T. S., Cenacchi, N, Rios, A. R. (2019). Climate Change, Agriculture, and Adaptation Options for Nicaragua

[33] Rodríguez, J., Thomas, T.S., Cenacchi, N, Rios, A.R. (2019). Climate Change, Agriculture, and Adaptation Options for Nicaragua

[34] Rojas, O. (2020). Agricultural extreme drought assessment at global level using the FAO Agricultural Stress Index System (ASIS). Weather Clim. Extreme

[35] Ministerio de economía familiar, comunitaria, cooperativa y asociativa (MEFCCA). (2018). Agricultura Resiliente al Clima en el Corredor Seco de Nicaragua

consumption (MFEWS and Acción contra el Hambre, 2010)[36].

39. According to SINAPRED and INETER, the 2017-2018 agricultural cycle of the Nicaraguan dry corridor was affected by the deficit of rainfall, triggering impacts on the development of corn, rice, beans and sorghum and the emergence of pests, reporting a lower production during that period. These same institutions report that 300 000 people are exposed to a greater risk of drought in the 22 municipalities of the dry corridor, whose consequences can have a greater impact on these subsistence agricultural activities and on the food security of these people (WFP, 2018)[37].

40. The municipalities in the Dry Corridor have highly degraded natural ecosystems, caused mainly by the extraction of fuelwood (used by 75% of households), slash-and-burn agricultural practices or accidental fires, change of land use to carry out agricultural activities that cause degradation and loss of natural plant ecosystems, and climate variations that lead to water scarcity or excessive rainfall. The increase in temperatures and droughts significantly reduce the availability of water resources for agricultural and livestock production, which in turn causes substantial economic losses to production, and to family farming in particular.

41. According to the NDC of Nicaragua, the country still has extensive coverage in natural forests that represent 30% of the total area of the continental surface (3.9 million ha; INETER 2015[38]), which makes it the fourth country in Central America with the largest forest area. The forests are distributed in 3 main physiographic regions of the country. According to the 2015 land use map, they are found in a higher proportion in the Caribbean Coast region with 88% and 12% in the Pacific and Central - North regions, where the Dry Corridor is located (see Figure 10).

42. The loss of natural forests continues to be a challenge for Nicaragua. The most recent report on land use change at the national level presented by MARENA (2018)[39], shows that during the period between 2000 and 2015 the country lost 100 815 ha of primary forest annually. However, the deforestation rate was reduced by 52% with respect to the figure reported between the 1983 - 2000 period (208 303 ha).

43. Nicaragua is part of the Mesoamerican Biological Corridor, where the Pino-Encino forest ecoregion stands out in the North Central Pacific region where the Dry Corridor is located, making it an important transit space for biodiversity in migratory processes and connectivity between patches of forests and degraded landscapes.

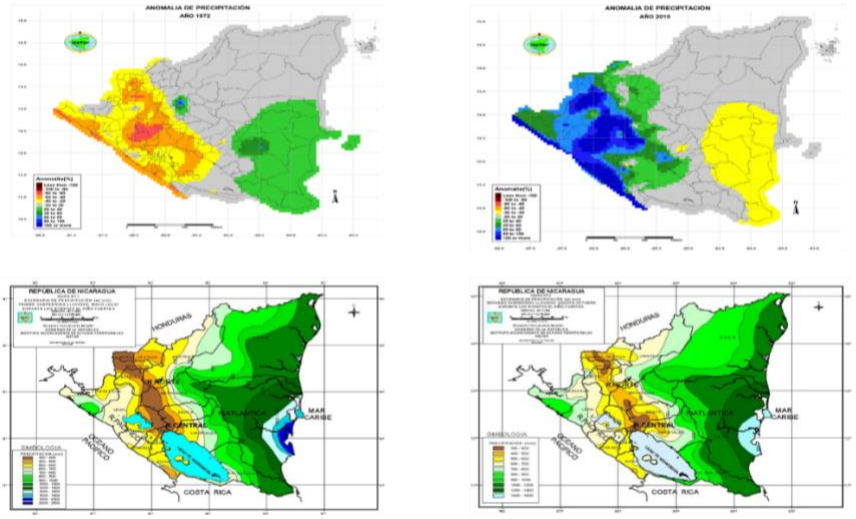

Figure 9. Precipitation anomalies in the Dry Corridor of Nicaragua

[36] MFEWS and Acción contra el Hambre (2010). Perfiles de Medios de Vida en Nicaragua

[37] WFP (2018). Evaluación Inicial de Seguridad Alimentaria en Emergencia Nicaragua. Impacto del déficit de lluvias en 22 municipios del Corredor Seco 2018

[38] INETER (2015). Mapa de suelos de la republica de Nicaragua. Managua Nicaragua

[39] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

44. In the document of the Third National Communication on Climate Change, published in 2018, it is indicated that the measures contemplated to avoid the degradation and loss of forest cover with the ENDE-REDD + National Strategy contribute to adaptation to climate change, because they benefit notably the availability of water in depleted sources, especially in areas with a deficit of rain. It also favours the reduction of risks of erosion and landslides, protecting water sources from sedimentation and the mobility of pollutants, as well as protecting a resource as valuable as fertile soil against erosion. On the other hand, they contribute to the increase in biodiversity that is the source of food for some families with low economic incomes and provide ecosystem services for many people who depend economically on the forest resource, such as fibres, firewood, animals for export, etc.

45. Most farms have access to water by way of wells, rivers and streams, but neither permanently nor in the amounts required, which means it has become an ongoing challenge. Available water is used mainly for human consumption and irrigation. The most grown crops are maize and beans. During the 2018-2019 agricultural cycle, drought affected approximately 53% of these. This was followed by excessive rains that caused 62% of production to be lost.

46. The level of schooling between men and women is similar. Incomplete primary school is the level that prevails in 34% of households, mainly among the older age groups (30 to 45 and 46 to 55 years of age). This lag in education limits the possibilities of accessing better-paying jobs, particularly among the 30-45 age group. Only 9% of households have a member who has finished secondary school, which suggests there is a high percentage of the young population that is currently not studying.

47. Agricultural activities cover 58% of basic household needs, meaning smallholder farmers are vulnerable to the effects of climate change on agriculture. Limited access to financial resources, agricultural technologies[40] and the capacities needed to use these and thus adapt to and overcome the effects of climate change and contribute to ensuring the sustainability of their livelihoods is a growing need for farmers living in the Dry Corridor.

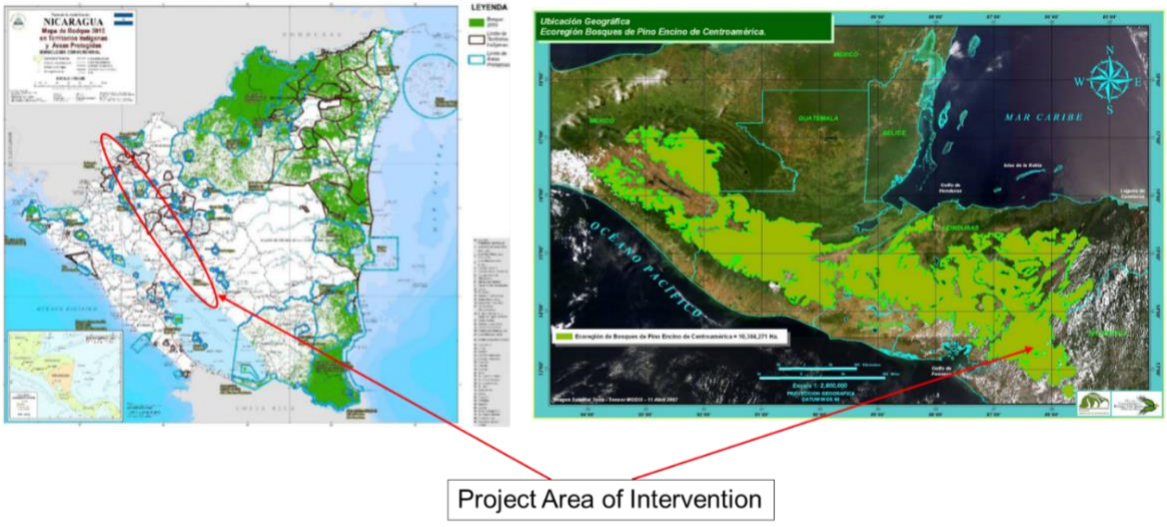

Figure 10. Forest Coverage 2015 and location of the Dry Corridor in the Pino Encino Forest Ecosystem

48. The Dry Corridor in Nicaragua has been identified as the epicentre of the yearly dry spell (the aforementioned reduction in rainfall during the rainy season) that affects agriculture and cattle-raising in Central America. There is a 25% probability, meaning once every four years, that crop losses due to drought will exceed 20% in agricultural areas (Rojas, O., 2020)[41]. The drought in 2001 caused losses estimated at USD 49.1 million

[40] The UNFCCC Adaptation Committee notes the lack of adequate access to financial resources, the insufficient legal and regulatory framework, inadequate capacity to prepare projects, barriers related to traditions and habits, and scarce knowledge about climate change and technological solutions as the main obstacles to the development and transfer of technology in Latin America and Caribbean (UNFCCC, 2020).

[41] Rojas, O. (2020). Agricultural extreme drought assessment at global level using the FAO Agricultural Stress Index System (ASIS).

(ECLAC, 2011)[42].

Identification of problems, causes and barriers in the dry corridor of Nicaragua

49. Droughts and extreme rainfall have a negative impact on the rural livelihoods of smallholder farmers living in the Dry Corridor. As the magnitude, frequency and impact of meteorological events increase and are aggravated by climate change. Their vulnerability increases due to the overexploitation of soil, water and forest resources, and more and more families have less resilience, understood as the ability to assimilate, recover and adapt, becoming more vulnerable to future climatic events.

50. The diagnostics carried out by the Nicavida project[43] in Dry Corridor municipalities point to the following as the main barriers that limit the adaptation of smallholder farmers to climate change: droughts that affect agricultural production; scarce access to water for human consumption, irrigation and livestock waterers; limited capacity to implement sustainable land management practices; an increase in soil degradation and erosion due to loss of forest cover and inadequate agricultural production practices; and low levels of agricultural productivity; and levels of schooling and few training opportunities. FAO data (2019) indicate that moderate or severe food insecurity affects 47% of households in the Dry Corridor, a situation it may be assumed has grown worse due to the impact of the COVID-19 pandemic.

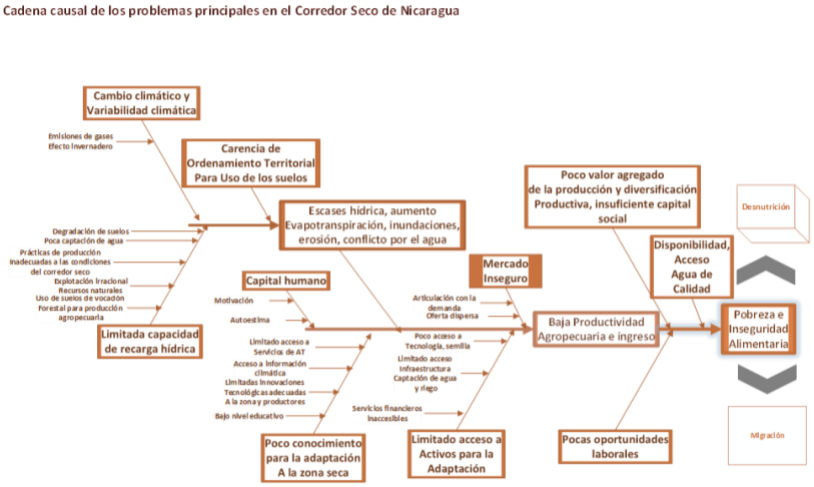

Figure 11. Causal chain of the main problems found in Nicaraguan Dry Corridor

51. The project seeks to address the barriers facing adaptation to climate change in the agricultural sector, specifically from small producers who need to adapt to continue producing corn and beans in 14 municipalities in the Dry Corridor, an area of 12 414 hectares. These municipalities were selected upon having undertaken a first multi-criteria analysis which took into account the variables of soil coverage, poverty, population density, drought and variations in rainfall. Subsequently, those areas were prioritized in which there is a larger presence of small and medium farmers, which are more sensitive to the effects wrought by climate change, due to their limited purchasing power as concerns adaptive technologies. Map 6 shows in detail the 14 municipalities that comprise the project area of intervention.

52. The 14 prioritized municipalities are as follows: Ciudad Darío, Condega, El Jicaral, La Trinidad, Palacagüina, San Isidro, San Juan de Limay, San Lorenzo, Santa Rosa del Peñón, Sébaco, Somoto, Telpaneca, Teustepe and San Francisco Libre. Ten of these municipalities are under serious threat of drought (Somoto, San Lorenzo, Teustepe, El Jicaral, Santa Rosa del Peñón, Telpaneca, San Francisco Libre, Ciudad Darío, San Isidro and Sébaco). The municipality of San Francisco Libre is also at high risk of flooding (MARENA, 2018)[44].

53. The project intends to focus on facilitating the transfer of adaptation capacities and the development of climate-smart agriculture that contributes to reducing climate vulnerability, while increasing the adaptive capacity of

[42] CEPAL (2011). La economía del cambio climático en Centroamérica Reporte técnico 2011

[43] Government of Nicaragua and IFAD (2016). Proyecto de Desarrollo Sostenible de las Familias Rurales en el Corredor Seco de Nicaragua - NICAVIDA

[44] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

smallholder farmers and their agro-ecosystems in 14 municipalities in the Dry Corridor.

Identification and description of the project area of intervention

54. The model for prioritizing areas for project intervention was based on the Multiple Criteria Methodology designed by the Intergovernmental Panel for Climate Change (IPCC). This methodology calls for carrying out an overall review of the situation in any given area of intervention, from an adaptive perspective based on multiple approaches (see Table 1). Processes were established for the quantification and evaluation of the sensitivity of the aforementioned municipalities to the effects of climate change, as well as the identification of places with the highest potential for carrying out actions keyed to increasing the resilience of smallholders living in the project area of influence.

55. According to the methodological design described in the foregoing, multi-criteria models were run in all municipalities located in the Dry Corridor. Using two categories – high (1) and very high (2), the model prioritised 26 municipalities in nine provinces (see Table 2 and Figure 6).

Table 1. Criteria and numerical weighting for multi-criteria analysis

CRITERIA	WEIGHTING
Soil coverage	20%
Poverty	15%
Population density	15%
Drought	20%
Rainfall variation	30%
Total	100%

Table 2.Municipalities prioritized according to multi-criteria analysis

No	Municipalities	Total ha to be covered	Total Population in 2020 (Inhabitants)	Urban (Inhabitants)	Rural (Inhabitants)
	MADRIZ	1 407.57	**79 535**	**33 224**	**46 311**
1	Palacagüina	348.74	15 389	5 601	9 788
2	Somoto	410.59	39 821	21 021	18 800
3	Telpaneca	648.24	24 325	6 602	17 723
	ESTELÍ	3 690.77	**68 679**	**29 591**	**39 088**
4	Condega	1 093.23	31 086	11 836	19 250
5	La Trinidad	816.01	22 521	12 852	9 669
6	San Juan Limay	1 781.53	15 072	4 903	10 169
	MATAGALPA	2 630.42	110 970	57 790	53 180
7	Ciudad Darío	1 067.10	53 268	22 918	30 350
8	San Isidro	895.71	19 995	9 300	10 695
9	Sébaco	667.61	37 707	25 572	12 135
	LEÒN	1 194.10	22 781	4 948	17 833
10	El Jicaral	762.65	11 833	1 577	10 256
11	Santa Rosa del Peñón	431.45	10 948	3 371	7 577
	BOACO	1 491.47	65 228	15 749	49 479
12	Teustepe	844.43	33 592	6 995	26 597
13	San Lorenzo	647.04	31 636	8 754	22 882
	MANAGUA	2 000.00	11 267	3 451	7 816
14	San Francisco Libre	2 000.00	11 267	3 451	7 816
	TOTAL	**12 414.33**	**358 460**	**144 753**	**213 707**

Source: MARENA 2021 for surface to prioritize. INIDE 2020 population estimates[45]

[45] INIDE (2020). Anuario Estadìstico 2019

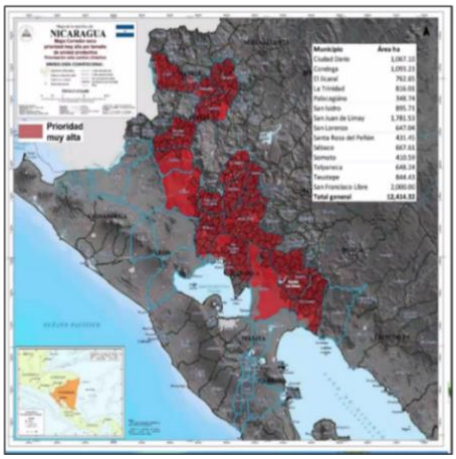

Figure 12. Project Area of Intervention

56. The Project plans to carry out activities in two municipalities with indigenous communities in the North and Central Region of the country: i) with the Chorotega del Norte indigenous people, which includes the municipality of Telpaneca in the department of Madriz and ii) with the Chorotega del Centro Indigenous people in the municipality of Sébaco in the department of Matagalpa. The indigenous town of Li Telpaneca is located in the department of Madriz and its foundation dates from the year 1626, it has an estimated population of 12 000 people, which are distributed in 39 rural communities and five urban areas, agriculture is mainly directed towards basic grains and consists of: corn, beans, sorghum and musaceae, as well as coffee which is grown on a regular scale in mountainous areas such as the El Malacate hills with 1 490 meters high, Santo Domingo with 1 348 and El Picacho with 1 343. The Council of Elders, made up of an elder from each community, is the highest decision-making body and guardian of historical memory. The Board of Directors is the administrative and executive body subject to popular election. The Youth Network, Women's Network, Mediators also operate.

57. Indigenous Community and Communicators. The indigenous town of Sébaco is characterized by intense industrial activity, such as the processing of rice and coffee, to which is added an active trade. In addition to the municipal government, there is an indigenous community government, made up of community members through the Indigenous Assembly, the Council of Elders, the Administrative Board of Directors and the Electoral Directory.

B. Project / Programme Objectives

58. The project's general objective is to contribute to reducing the climate vulnerability of smallholder farmers and their agro-ecosystems in the Nicaraguan Dry Corridor by increasing their adaptive capacity, rehabilitating their agricultural livelihoods and using ecological transition practices, climate-smart agriculture and restoring the forest landscape.

59. Participatory planning processes and the transfer of capacities will facilitate the implementation of ecosystem-based adaptive measures and actions that improve the water and food security of benefiting farmers, generate ecosystem services at landscape scale and contribute to the ecological transition.

60. To reach the objective described in the foregoing, four outcomes are proposed, as follows:

Outcome 1. Smallholder farmers in 14 municipalities in the Dry Corridor develop capacities for planning and implementing ecosystem-based adaptive measures with the participation and consultation of women and indigenous peoples that contributes to improving their water and food security.

Outcome 2. Forest landscape restoration activities that help to improve the flow of ecosystem services are implemented by smallholder farmers in 14 municipalities in the Dry Corridor.

Outcome 3. Climate-smart agricultural practices, including silvopastoral and agroforestry systems, are adopted by smallholder farmers in 14 municipalities in the Dry Corridor.

Outcome 4. An adaptive administration and knowledge management approach is applied during project implementation.

C. Project / Programme Components and Financing

PROJECT / PROGRAMME COMPONENTS	EXPECTED OUTPUTS	EXPECTED OUTCOMES	AMOUNT (US$)
1. Transfer of capacities to smallholder farmers in 14 municipalities in the Dry Corridor, leading to implementation of adaptive, ecosystem-based measures and actions.	1.1 Capacity building program for SNPCC Institutions and smallholder farmers, developed and implemented with the participation of women and indigenous peoples.	1. Smallholder farmers in 14 municipalities in the Dry Corridor develop capacities for planning and implementing ecosystem-based adaptive measures with the participation and consultation of women and indigenous peoples that contributes to improving their water and food security.	1 141 600
2. Restoration of forest landscape so it generates ecosystem services.	2.1 Forest landscape is restored and generates ecosystem services.	2. Forest landscape restoration activities that help to improve the flow of ecosystem services critical to water availability during periods of droughts are implemented by smallholder farmers in 14 municipalities in the Dry Corridor.	4 000 000
3. Rehabilitation of agricultural livelihoods at farm level, using climate-smart agriculture practices.	3.1 Agricultural crops, silvopastoral and agroforestry systems are established and/or improved with the use of selected heat-resistant seeds and the implementation of agroecological practices based on sustainable soil and water management. 3.2 Promotion of resilient livelihoods through diversification and access to markets for at least two crops using sustainable land management practices and with the participation of women and indigenous peoples.	3. Climate-smart agricultural practices, including silvopastoral and agroforestry systems and agroecological practices are adopted by smallholder farmers in 14 municipalities in the Dry Corridor.	2 500 000
4. Capture and dissemination of knowledge and lessons from the project, as well as participatory monitoring and follow-up to the activities implemented.	4.1 A knowledge and communications management strategy, with the participation of women and indigenous peoples, is developed and implemented. 4.2 A project follow-up, monitoring and evaluation system, with the participation of women and indigenous peoples, is developed and implemented.	4. An adaptive administration and knowledge management approach is applied during project implementation.	700 000
6. Project/Programme Execution cost (9.5%)			875 000
7. Cost Total Project/Programme Cost (= Project Components + Execution Cost)			9 216 600
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) (8.5%)			783 400
Amount of Financing Requested			**10 000 000**

D. Projected Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2023
Mid-term Review (if planned)	June 2025
Project/Programme Closing	December 27

Terminal Evaluation	March 2028

PART II. PROJECT JUSTIFICATION

A. Project components

61. The project has as objective to contribute to reducing climate vulnerability among smallholder farmers and their agroecosystems in the Dry Corridor by increasing their adaptive capacity, rehabilitating their agricultural livelihoods and using ecological transition practices, climate-smart agriculture and the restoration of forest landscapes.

62. The participatory planning and capacities transfer processes will facilitate the implementation of ecosystem-based adaptive measures and actions that improve the water and food security of benefiting farmers, as well as the generation of ecosystem services at landscape scale.

63. This objective is closely related to three Adaptation Fund outcomes, as follows: i) Fund Outcome 3. Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level; ii) Fund Outcome 5. Increased ecosystem resilience in response to climate change and variability-induced stress; iii) Fund outcome 6. Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas.

64. The low agricultural production and the losses in corn and bean crops suffered by farmers in the dry corridor are directly related to the presence of prolonged droughts and extreme rains as a result of climate change. Additional difficulties include soil degradation; the loss of vegetation cover; limited access to water for human consumption, irrigation and livestock waterers during the dry season; and low levels of schooling and limited training opportunities that reduce these farmers' adaptive capacities. To address this situation, the opportunity was perceived to request resources from the Adaptation Fund to be used as a means of improving the adaptive capacity of a targeted number of smallholder farmers through adaptation strategies that focus on how to continue producing corn / beans, reducing their vulnerability to climate change by developing capacities by means of which to rehabilitate their agricultural livelihoods, using climate-smart agricultural practices and restoring the forest landscape in a setting marked by a changing climate.

65. The project consists of four interrelated components, as described immediately below:

66. **Component 1.** Transfer of capacities to smallholder farmers in 14 municipalities in the Dry Corridor, leading to implementation of adaptive, ecosystem-based measures and actions.

67. It is foreseen that the project will directly benefit at least 5 000 smallholder farmers of which 1,500) (30%) women and indirectly another 20,000 persons in 50 communities located in the 14 municipalities. This will translate into greater capacities to confront climate change and improve food security among benefiting farmers.

68. The project will place special emphasis on smallholder women. When activities begin, an analysis of gender relations is planned that will ensure that the capacities transfer uses a gender approach and has a strong direct impact on this population group. During the preparation of the Concept Note, an initial gender assessment has been prepared (see Annex 1) based on a study carried out by FAO with 1 206 rural households in the dry corridor (March, 2021), reflecting that 79% of the women consulted said their crops had been affected by climate change, be it due to the effects of drought or excessive rainfall, access to water is a daily challenge, only 35% of the informants said they have water sources in their place of residence and 7% have natural forest. The project aims to expand the economic development of smallholder women by empowering them and strengthening their role in communal decision-making, in addition to improving capacities among the project's technical team on matters related to gender, ethnic groups and social equity. The use of digital tools will be a key strategy for capacity-development processes that strengthen the resilience of these farmers' livelihoods.

69. **Outcome 1.** Smallholder farmers in 14 municipalities in the Dry Corridor develop capacities for planning and implementing ecosystem-based adaptive measures with the participation of women and indigenous peoples that contributes to improving their water and food security.

70. This outcome is directly related to Outcome 3 of the Fund: "Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level". To achieve this outcome, it is proposed to develop the following outputs and activities:

71. **Output 1.1** Capacity building program for SNPCC Institutions and smallholder farmers, developed and implemented with the participation of women and indigenous peoples.

72. As part of the capacity development component of the AF proposal, this output aims to transfer theoretical and practical knowledge to benefiting farmers, as well as to share the experience with institutions in the Dry Corridor that have links to cooperatives or civil society organisations. These include the National System of Production, Consumption and Commerce (SNPCC); Ministry of Agriculture (MAG); Ministry of Cooperative, Associative Community and Family Economy (MEFCCA); Nicaraguan Institute of Agricultural Technology (INTA); Agricultural Protection and Health Institute (IPSA); National Forestry Institute (INAFOR); and Ministry of Natural Resources (MARENA), who will benefit from a strengthening of their capacities to implement agricultural extension services in the project area.

73. For project design, meetings, workshops and dialogues for 14 municipalities will be held with smallholder farmers, both *mestizo* (non-indigenous) and indigenous, also with key actors who will provide inputs related to existing capacities, indigenous and local farmers' knowledge, and training needs that should be taken care of by this project. The Project will consider that peasant agriculture, especially family farming, have strong roots in the ecosystem and the natural resources associated with it. Consequently, a certain resilience to climate change has developed, through the development and practice of various forms of production, commonly called ancestral practices and which are analogous to agroecological practices, such as, for example, the food systems developed by native people.

74. The participatory analysis resulting from this output and the vulnerability at landscape scale will aim to support components 2 and 3 by further developing the understanding relating to the existing climate risks and livelihoods affected by climate threats. The participatory analysis at local scale allows contextualizing the impacts of climate threats that have been identified determined at broader scales, and how these affect the different types of existing livelihoods in the municipalities. Educational activities specifically addressed to youth and children will be considered as a means to facilitate the participation of new generations in the other components of the project.

75. The program will be implemented through the creation of learning sites, directly in the territory. The learning sites promoted by FAO are the Capacity Development Units (UDC) and the Agroecological Promotion Units (UPA) through Field Schools that are developed on farms to be selected in each municipality where there are already experiences of adaptation practices with ancestral, indigenous and / or project knowledge previously developed in the project area. In the learning sites, groups of producers from a community are formed who carry out participatory research to solve productive problems in their crops and the farms where soil and water management practices are already implemented are identified; the protection of forests, wetlands and other sensitive ecosystems and in the case of the cultivation of corn and beans to identify the farms where to validate the implementation of certified improved seeds and / or seed banks, local strains to improve the productivity of red and black beans and white, crop rotation, vegetation cover (Mulch) and no burning and the "Water Harvest" as a practice of adaptation to climate change. The Field Schools are an experiential and participatory learning methodology, used by FAO since the eighties, and has been adapted to different contexts and needs around the world. The methodological guide called "Field School Guide for Facilitators in the Agricultural Extension Process" will be used, based on non-formal education for adults, where rural farmers and teams of facilitators exchange knowledge, based on experience and experimentation through simple and practical methods, using the cultivation and the home as a teaching-learning resource for empowerment and development. After the project implementation stage, the aim is for the learning sites to continue working as innovation farms incorporated into the national system of farms for innovation, validation and transfer of agricultural technologies through an agreement that will be signed with the Nicaraguan Institute of Agricultural Technology (INTA).

76. As part of the design of the capacity development program, a study will be carried out to expand the initial gender assessment to allow its mainstreaming throughout the project, in order to support gender equality by aiding men and women in all activities that promote the project, promoting equal opportunities and the generation of affirmative actions aimed especially at heads of household and women who lead agricultural production activities on their farms, in order to contribute to the elimination of obstacles that hinder their development. As a result of the gender consultations held by FAO and MARENA, two aspects will have to be specially considered: i) the need to link trainings received by women with actual activities they are in condition to apply, either because they have the means to accomplish them or because physical and complementary incentives are provided; and ii) the need to consider technologies that reduce workload and improve women's

health, such as improved stoves, biodigesters or rainwater harvesting systems.

77. For the purpose of undertaking the study on gender relations, consultations will take place with actors in the project area of intervention and other key actors, as needed. FAO has carried out similar studies in the Dry Corridor and other parts of the country. The results, as well as the methodological processes developed, are fundamental to the implementation of this output. Among the local actors with whom it will be coordinated are the 14 Municipalities, the National Technology centers (INATEC) located in Estelí, San Isidro, Matagalpa, Somoto, Boaco, León and Managua and the sub-national headquarters of Universities such as Universidad Nacional de Nicaragua (UNAN) and Universidad Católica Agropecuaria del Trópico Seco (UCATSE) in Estelí and León.

78. **Component 2:** Restoration of forest landscape so it generates ecosystem services.

79. The component incorporates and contributes to the objectives set forth in the National Sustainable Forestry Sector Development Policy, the National Avoided Deforestation Strategy (ENDE-REDD+) and the National Reforestation Crusade, among other political action instruments. Nicaragua has extensive coverage in natural forests that represent 30% of the total area of the continental surface (3.9 million ha; INETER 2015)[46], however, its highest proportion is found in the Caribbean Coast region with 88% and 12% in the Pacific and Central North regions. Forest restoration in Nicaragua is a priority and there are potential areas in the project area to implement forest cover management and restoration actions. Landscape restoration actions will make it possible to protect, sustainably manage and restore natural or modified ecosystems, through agroforestry, improved farmland management, agricultural diversification, integrated water management and forest management.

80. **Outcome 2**. Forest landscape restoration activities that help to improve the flow of ecosystem services critical to water availability during periods of droughts are implemented by smallholder farmers in 14 municipalities in the Dry Corridor.

81. This outcome is directly related to the Fund's Outcome 5: "Increased ecosystem resilience in response to climate change and variability-induced stress".

82. **Output 2.1** Forest landscape is restored and generates ecosystem services.

83. The restoration of the forest landscape will improve the flow of ecosystem services in the municipalities where the project intervenes. This will contribute to improving soil productivity, recovering water resources, restoring forest cover and generating ecosystem services, such as pollination or pest and disease control, all of which will have a positive impact on agriculture, the main livelihood of benefiting farmers, as well as their climate resilience.

84. To achieve the proposed result and product, it will be necessary to carry out a participatory planning exercise of actions at the landscape scale to locate the restoration of forests on the banks of rivers and streams for the conservation of water sources and in areas for the creation of biological corridors. between patches of forest, and development of agreements between actors for their implementation. The forest landscape restoration actions will improve the flow of ecosystem services by developing them in the identified areas to protect the aquifer recharge zones in the project area, to generate non-timber products for food cooking, natural medicine and to ensure the transit of biodiversity in the migratory processes of wildlife. Small communal edible forest and tree nurseries for fruit trees will promoted to support the educations tasks with youth and children and provide complementary food products.

85. The forest restoration implemented by the project will contribute to the fulfilment of Nicaragua's goal in the 20x20 Initiative with the objective of restoring nearly 2.8 million hectares and to the NDC's goal in the Forest Management, Land Use and Change of Land Uses. Through the national system of production, consumption and trade, Nicaragua has established productive strategies with a focus on adaptation and mitigation to climate change, promoting best practices for the establishment and management of crops and incorporating low-emission production initiatives that also contribute to the environmental restoration.

86. To put these agreements into practice, detailed investment plans will be carried out to define the protection

[46] INETER (2015). Mapa de suelos de la republica de Nicaragua. Managua Nicaragua

areas of water recharge zones, areas for the creation of biological corridors between forest patches and areas to generate non-timber products, with a gender and ethnic focus, developed to guide forest landscape restoration actions in each municipality. Local governance systems and arrangements will also be strengthened in the municipalities where the project will work, to anchor the implementation of forest landscape restoration actions to these local governance arrangements.

87. **Component 3:** Rehabilitation of agricultural livelihoods at farm level, using climate-smart agriculture practices.

88. This component pursues the strengthening of adaptive capacities on the part of communities and farmers, by adopting climate-smart sustainable agriculture practices. It prioritizes the scaling up of adaptation practices sufficiently tested in Nicaragua and other countries with similar Dry Corridor environments. It will make use of lessons and systematisations developed by the Agriadapta Project, in which 37 climate change adaptation technologies have been identified, among them soil and water conservation works, increases in tree coverage and water harvesting, and the implementation of community initiatives intended to improve the quality of life of women, men and young adults in the *Adapta Jóvenes* Network, as protagonists in ten municipalities in the Dry Corridor.

89. **Outcome 3.** Climate-smart agricultural practices, including silvopastoral and agroforestry systems and agroecological practices are adopted by smallholder farmers in 14 municipalities in the Dry Corridor.

90. This outcome is directly related to Outcome 6 of the Adaptation: “Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas”. This can be considered the project’s central outcome, which will contribute directly to improving the resilience of benefiting farmers. Its achievement is closely related to the development of the other outputs and activities mentioned below.

91. **Output 3.1** Agricultural crops, silvopastoral and agroforestry systems are established and/or improved with the use of selected heat-resistant seeds and the implementation of agroecological practices based on sustainable soil and water management.

92. To rehabilitate and enhance livelihoods based on agriculture and animal-raising using climate-smart agricultural practices at farm level, including family gardens, the point of departure will be the use of climate change adaptation technologies in prioritised sectors which were developed as part of the Third National Communication.[47]

93. **Output 3.2** Promotion of resilient livelihoods through diversification and access to markets for at least two crops using sustainable land management practices and with the participation of women and indigenous peoples.

94. This strategy will provide guidelines for the selling of the crops harvested by benefited smallholder farmers at local markets. Developing market access capacities and the sale of agricultural products will be addressed as part of the training to take place at the Field Schools mentioned in component 1. This development of capacities will be coordinated with local actors such as INATEC centers located in Estelí, San Isidro, Matagalpa, Somoto, Boaco, León and Managua and the universities UNAN-Estelí, UNAN León and UCATSE. Priority will be given to the assessment and potential scaling-up of already existent initiatives and cash crops carried out by groups of women in the municipalities of intervention and that were identified in the gender consultations. The proposed project does not include actions for access to credit since its target group are small producers of the family economy; however, support will be provided in the form of transfer of inputs and materials in the absence of credit, that are required to implement the practices of adaptation in component 2 and climate smart agriculture in component 3.

95. This support will be channelled through the Ministry of Family, Cooperative and Associative Economy (MEFCCA) by strengthening the capacity of new or existing producer organizations (cooperatives, associations and / or corporations). The MEFCCA is in charge of the main actions of rural development and its main lines of action lie on the development of family and community agriculture, small rural businesses, associations and cooperatives. The MEFCCA implements a development model based on families and micro and small rural enterprises, and is also in charge of the execution of relevant programs such as NICAVIDA or GAFSP. The General Directorate of Family Agriculture has among its functions the improvement of sustainable livelihoods for rural families; developing income opportunities; organization; reducing vulnerability and increasing resilience

[47] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

through local and national exhibitions for the sale of products from small producers; developing meetings between producers at the departmental and local level to exchange experiences on adaptation technologies and practices that allow the required yield and increase in production; creativity and innovation contests for rural enterprises; and the development of capacities and adoption of adaptation technologies in the development of creative ventures that contribute to family productive diversification. MEFCCA is a strategic partner for component 3 and will provide, through the gained experience in climate change adaptation projects (NICAVIDA and NICADAPTA, amongst others), technical assistance and support to the planning, and delivery of inputs for adaptation practices and productive diversification of families and cooperatives; to the promotion of associativity by linking families, with the participation of women and indigenous peoples, with existing cooperatives; and to the facilitation of access to markets for the products of the agricultural activities supported by the project.

96. A strategy of incentives will be designed at full proposal design stage to guide the transfer of assets to project participants, according to the following principles: i) the previous adoption of key sustainable land management or agricultural practices such as zero-burning; ii) the focus on input-based incentives that aim to remove barriers to the adoption of good practices; iii) the focus on present farming activities and needs by farmers, to avoid the perverse effect of causing changes in agricultural activities in order to access the incentives; iv) linked to the training and capacity building processes covered in Component 1; v) incentives cannot be provided for financially inefficient activities; and vi) incentives are a mechanism of risk-sharing so participants must cover a portion of the cost of adoption in order to promote appropriation.

97. **Component 4:** Capture and dissemination of knowledge and lessons from the project, as well as participatory monitoring and follow-up to the activities implemented.

98. This component aims at developing knowledge management by systematising the project's experiences from the outset, followed by the dissemination of this information through the youth and community board networks, using digital technology. It also includes follow-up, monitoring and evaluation.

99. **Outcome 4.** An adaptive administration and knowledge management approach is applied during project implementation.

100. This outcome is related directly to Outcome 3 of the Fund: "Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level". It is thought this outcome will provide important guidelines, set forth in the following outputs, while facilitating project development and the achievement of the objectives and outcomes proposed.

101. **Output 4.1**. A knowledge and communications management strategy, with the participation of women and indigenous peoples, is developed and implemented.

102. The participatory formulation and implementation of a knowledge and communications strategy will allow for systematising and later on disseminating the main project results and lessons learnt. Knowledge management will include organizing workshops for extension technicians and farmers for disseminating climate information and response adaptation measures using locally-relevant delivery mechanisms as virtual platforms, electronic means, telecommunication for radio and TV, visits of the extension workers and use the development of the farms functioning as schools of field and learning centers at the community level and at the municipal level to use the Telecentres in operation by INTA in coordination with the Municipalities for knowledge generation and sharing.

103. In order to formulate this strategy, it will be necessary to hold meetings and workshops with key actors that provide inputs which feed strategy development.

104. **Output 4.2**. A project follow-up, monitoring and evaluation system, with the participation of women and indigenous peoples, is developed and implemented.

105. Having in place a follow-up, monitoring and evaluation system will allow the technical team to take informed decisions, using the lessons-based adaptive management approach and making adjustments to activities still to be undertaken.

B. Economic, social and environmental benefits

106. The objective of the project is to contribute to reducing the climatic vulnerability of peasant farmers and their agro-ecosystems in the Dry Corridor of Nicaragua. It is estimated that the project will directly benefit at least 5 000 smallholder farmers of which 1,500 (30%) women and indirectly around 20,000 people in 50 communities in 14 municipalities of the dry corridor in poverty. The economic benefits will be generated mainly by making the livelihoods of these peasant farmers more resilient to climate change, which will help to minimize the losses associated with prolonged droughts (heatwave), while creating economic opportunities for sale of their products in local markets, through short marketing chains.

107. In social terms, the project will be inclusive and ensure that different types of families and actors can become beneficiaries of the activities to be carried out. The beneficiaries' eligibility criteria (farm size, number of crops, number of animals, level of schooling, etc.) will be defined in the project's early stage. Participating smallholder farmers will benefit from better planning, recovery and forest landscape management. The rehabilitation of their agricultural and animal husbandry livelihoods, including the establishment of new crops with a climate-smart approach to agriculture will improve food security.

108. The capacity transfer process (component 1) will allow farmers to have access to more information that will allow them to increase their resilience, adaptive capacity and at the same time improve decision-making when faced with extreme weather events. The direct beneficiaries of the project, 5 000 smallholders of which 1,500 women (30%), will be trained in agricultural practices for sustainable and climate-resilient land management; forest landscape restoration; local governance and market and marketing issues. To further expand the number of beneficiaries, the capacity and knowledge building materials are designed in a way that provides accessibility and replicability on a large scale (on-farm practices, support for diversification, access to climate hazard monitoring). This will also be added to the number of direct and indirect beneficiaries of Components 2 and 3.

109. The project will generate direct and indirect environmental benefits through component 2, promoting a favourable local environment for the management and conservation of natural resources at the farm level and in the surrounding landscape. The restoration of the forest landscape in an area of at least 20,000 hectares will allow obtaining benefits that can impact at least 20,000 inhabitants of 50 communities in 14 municipalities of the dry corridor, through the improvement of long-term ecosystem services, among them, improvement the availability of water by protecting the aquifer recharge zones in the project area, greater availability of non-timber products for cooking food, natural medicine and ensuring the transit of biodiversity in the migratory processes of wildlife. Through component 3, the implementation of climate-smart agriculture practices will allow less management of soils and water courses, which will have a positive impact on ensuring food production, especially corn and beans, which contributes to improving the food security of families.

110. The detailed study to be carried out on gender relations will make it possible to quantify the direct benefits to rural women through the activities of all the components of the project. It is estimated that the project can enable the active participation of at least 1,500 women in the project's target area and reach significantly more women beneficiaries through outreach and capacity-building activities. Components 1 and 3, have great potential to increase the benefit to women through the Creative Economy Model, actively and productively involving women and their representation directly in managerial roles and decision making. Also, in component 1 the project will include the promotion and consolidation of a culture of coexistence based on values and non-violence, fostering spaces for dialogue, awareness and training.

Table 3.Expected benefits

Economic
Diversification, climate-smart agriculture, and water harvesting to improve target crop productivity promote local resilience to drought, and improve smallholder incomes: Rehabilitating agricultural livelihoods using climate-smart practices will improve crop productivity, reduce crop losses, improve household nutrition, and create opportunities to sell family farm products in local markets, resulting in better incomes for small and vulnerable farmers who are beneficiaries., According to an IDB study, the main limitation in the corn value chain is low productivity, with Nicaragua's yield being the lowest in the region at 1.3 t / ha. For 2017, the national harvest amounted to 408,415 t in 319,200 hectares, representing a drop of 1% in volume and 9% in area compared to 2016. This low productivity is

associated with vulnerability to drought, low levels of technification and limited adoption of improved varieties. In addition, beans represent the second most produced crop in the area, with 65% of agricultural production in the area at least one time of the year (INIDE, 2011). This is the fourth most consumed product of plant origin in the country, contributing 7.5% of caloric intake and 18.5% of protein intake per capita, being of high importance for food security and relevant in the diet local.

In addition to the loss of productivity, climate change in the selected municipalities of the dry corridor, generate prolonged droughts aggravated by climate change, which brings with it crop losses and consequently loss of income for peasant families. A recent study carried out by Catholic Relief Services (CRS), the International Corn and Wheat Improvement Center (CIMMYT), and the International Center for Tropical Agriculture (CIAT) analyzed the impact of future climatic conditions on corn and beans production in four Central American countries. The effects of climate change will translate into significant losses for small farmers whose livelihoods depend on growing corn and beans. To improve the resilience of small farmers, rainwater harvesting actions and the promotion of landscape restoration activities will be promoted, which will allow a better capture of water in the territory and will make possible a better forest management. Likewise, these actions will allow access to economically valuable firewood and non-timber products that will allow a better catchment of water in the territory and will make possible a better forest management. Likewise, these actions will allow access to economically valuable firewood and non-timber products.

Increased income and economic benefits for women: There is significant potential of the current project to increase productivity and income for women through Components 2 and 3. The project will allow the active participation of at least 30% (1,500) women in the project's target area and reach a significantly higher number of beneficiary women through the dissemination of capacity-building activities.

Indigenous communities. Culturally appropriate Climate-Smart Agriculture Practices: Within the municipalities to be worked on by the project, there are 2 indigenous populations, which are located within the departments of Madriz (Palacagüina, Somoto and Telpaneca municipalities) and represent 34% of the total population. In the case of the department of Matagalpa (municipalities of Ciudad Darío, San Isidro and Sébaco), this population amounts to a total of 14%. As previously mentioned, the population of the municipalities of the dry corridor maintains high percentages of poverty. Those municipalities with the largest indigenous population have even higher poverty rates, which increases the vulnerability. The project will embrace climate-smart agriculture practices that will promote the incorporation and exchange of ancestral practices of resilient production and genetic conservation such as guasaya, the promotion of the incorporation of crops such as amaranth, an ancestral crop with high nutritional value and ancestral practices for sustainable land management, such as espeque. Catalogs of ancestral practices identified by the PAGRICC project in the Nicaraguan dry corridor will be complemented with other ancestral and resilient local practices that allow generating a climate-smart agriculture approach with indigenous relevance. Linking the culturally appropriate CSA approach with restoration will reduce losses associated with prolonged droughts (heat wave), recover ecosystem services associated with water and forest, and make possible a diversified production to improve families' income food security.

Social

Climate change generates increasingly prolonged droughts, creates a problem of access to water for human consumption and agricultural irrigation. As mentioned above, crop losses due to drought translate into food and nutritional security problems for peasant families, since part of the small farmers' crops are used for their own subsistence.

Once livelihoods become climate resilient, which includes improving the possibility of improving water recharge and water harvesting for small producers, it will have a direct impact on the food and nutrition security of beneficiary families. . The transfer of skills to farmers, including women, youth and indigenous peoples, will give them access to more information, knowledge and skills on transformative climate actions that they can implement in the economic activities they carry out, which in turn will increase their resilience and capacity to adapt to extreme weather conditions.

Benefits for small producer families and women in the dry corridor: It is estimated that around 20,000 family members, with an average of 5,000 small farmers, of which 30% (1,500) will be women, will be the direct beneficiaries of the project components.

Training for resilience of agricultural livelihoods: The population of the selected municipalities is characterized not only by high rates of poverty, but also by low levels of educational instruction. Training for small farmers through the methodology of field schools and demonstration farms will allow access to agricultural technical

knowledge and the value chain that will improve the resilience of their livelihoods with applied practices and tools. The expected number of people to be trained is 5,000 small farmers (30% women) in 50 communities located in the 14 municipalities.

Indigenous communities Training with a culturally differentiated approach: At least 175 indigenous households from the municipalities of Telpaneca and Sébaco will participate in the project. These trainings include the incorporation of a culturally differentiated approach that allows promoting and exchanging resilient ancestral practices with the aim of preserving their culture and guaranteeing an inclusive approach. In the Chorotega del Norte indigenous people, which includes the municipality of Telpaneca in the department of Madriz and in the indigenous people Chorotega del Centro in the municipality of Sébaco in the department of Matagalpa, benefits will be obtained through the ancestral experiences and knowledge that Indigenous peoples have and their coexistence with the environment and natural resources that facilitate adaptation based on ecosystems.

Training and specific economic benefits for women: Components 1 and 3 have great potential to increase the role of women in the Government's Creative Economy Model, actively and productively involving women and their representation directly in managerial roles and in decision-making. This will help close the gender pay gap by increasing female farmers' access to agricultural resources, training and services. Likewise, in component 1 the project will include the promotion and consolidation of a culture of coexistence based on values and non-violence, fostering spaces for dialogue, awareness and training.

Access to water for consumption and use of women's time: One of the roles of women and children in rural areas of the dry corridor is the search for water for human consumption and food preparation. As water scarcity increases, women who do not have alternative water supply options are often unpaid and do not have water for their essential needs. Global Water Parnership indicates that although the cost of water from rivers and lakes is 0, the cost in time is calculated at 2 hours per cubic meter of water, which implies a socially important cost[48]. In the case of children, it can, for example, limit access to education. The project takes due account of the increasing vulnerability of women in the search for this resource, essential for the health and daily activities of the family. For this reason, it integrates an important activity of groundwater recharge and protection of water sources through forest restoration, which allows to improve the availability of water in quantity and quality, as well as the harvest of rainwater that allows to considerably reduce the time used for this activity.

Environmental

Restoration of the productive landscape to favor water recharge and climate-smart practices to improve soil conditions and associated ecosystems: The overexploitation of natural resources, together with climate change, are generating negative environmental impacts, especially land / soil degradation and the loss of forests and biodiversity. The high vulnerability of ecosystems to drought and the loss of natural resource assets, especially land / soil degradation and the loss of forests and biodiversity, increase socioeconomic losses in vulnerable families in the Dry Corridor.

It is estimated that 20,000 hectares under component 2 will achieve results of restoration of the forest landscape and protected ecosystems (aquifer recharge zones, areas to generate non-timber products for cooking food, natural medicine and areas to ensure the transit of biodiversity in wildlife migration processes) with active participation and consultation with indigenous and non-indigenous women and men. The impact evaluation of component 1 of the Environmental Program for Disaster Risk Management and Climate Change (PAGRICC) indicates that the protection of water sources and the reduction of vulnerability to climate change were achieved through the establishment - at the farm level - measures for the conservation, recovery, and restoration of natural resources and reversed the effects of the droughts of the 2014-2016 period in the program's intervention area in the Dry Corridor of Nicaragua.[49] Climate-smart agricultural practices averaging 2 ha per smallholder family (for a total of 10,000 ha) will improve fertility and other soil conditions and associated ecosystem services, as well as benefits associated with GHG reduction.

C. Cost-effectiveness of the proposed project

[48] https://www.gwp.org/globalassets/global/gwp-cam_files/impacto-sequia-2014_fin.pdf

[49] https://publications.iadb.org/publications/spanish/document/Evaluaci%C3%B3n_de_impacto_del_componente_1_del_programa_ambiental_de_gesti%C3%B3n_de_riesgos_de_desastres_y_cambio_clim%C3%A1tico_es_Pdf.RIC.

111. As presented in the section I.A, Nicaragua is especially vulnerable to climate impacts that are already disrupting agricultural production, ecosystem degradation, and causing human health issues. Climate impacts contribute to increased poverty and food insecurity, as well as economic losses at local and national scales across the country. In the last 30 years, Central America lost USD 9,800 million due to drought and half this figure was in the agricultural sector.[50]

112. The project aims at contributing to the reduction of the climate vulnerability of smallholder farmers and their agroecosystems in the Nicaraguan Dry Corridor by increasing their adaptive capacity through the rehabilitation of agricultural husbandry livelihoods, using climate-smart farming practices and restoring the forest landscape. To ensure an effective reduction in vulnerability and an increase in the adaptive capacity of smallholder farmers and their agroecosystems, the project will drive the implementation of nature-based solutions (NbS) that help to address the existent challenges.

113. NbS is used as an umbrella concept to cover a range of ecosystem-related approaches including ecosystem-based adaptation, natural climate solutions, and green infrastructure that can be implemented for climate change adaptation and mitigation while also restoring ecosystems, conserving biodiversity, and enabling sustainable livelihoods. Due to their multiple benefits, NbS have the potential to cost-effectively achieve ecological, social, and economic goals. NbS help communities build resilience in a way that provides "the most benefit for the least cost" compared to grey infrastructure.

114. The project will take advantage of previous and ongoing initiatives in the country by drawing on experiences and lessons learned. This also includes partnering with different government and non-government initiatives (see section II.F) to ensure the project will reduce the need of testing pilot areas and developing new tools, methodologies and approaches that can be costly and timely to adjust into successful models.

115. It is estimated that around 20,000 people, averaging 5,000 smallholder farmers, will be the direct beneficiaries of the project components. The expected number of people to be trained is 5,000 smallholder farmers (1,500 women) in 50 communities located in the 14 municipalities and 175 indigenous farmers in 2 of the municipalities (Telpaneca and Sèbaco). It is estimated that 20,000 hectares under component 2 will achieve restoration results of the forest landscape and protected ecosystems (aquifer recharge zones, areas to generate non-timber products for food cooking, natural medicine and areas to ensure the transit of biodiversity in the wildlife migration processes) with the active participation and consultation with indigenous and non-indigenous women and men. Calculating the average USD 850 investment cost per direct beneficiary of components 1 to 3, the project can be considered cost-effective.

116. Costs per activity will be calculated in the detailed proposal, including the cost by benefiting family, by livelihoods restored and by forestland recovered (measured by area). Losses and damages associated with low productivity or reduced harvest due to extreme climate events will also be calculated, to generate quantitative information on the cost-effectiveness of the actions proposed, as well as to hold a comparison with alternative activities. Among these are possible disbursements by government social assistance programmes in case there are harvest reductions caused by extreme climate events.

117. Altogether, the project will be cost-effective by:

- Avoiding future costs associated with damage and loss due to climate change impacts (especially droughts) and to ensure the interventions are sustainable;
- Efficient project operations because of 'in-house' technical support options and capacity building expertise and because of direct partnering with communities (thereby building their capacity as well as reducing costs);
- Community involvement with development/construction of concrete interventions and because of community capacity building
- Selected technical options based on cost-feasibility and resilience/sustainability criteria (assessment to be done during full proposal).

Table 4.Cost-effectiveness perspective

[50] https://www.droughtmanagement.info/literature/GWP_CAM_Drought-2014-Impact_eng.pdf

Specific outcomes / outputs expected	Rationale why priority actions have been selected from a cost-effectiveness perspective
Component 1. Transfer of capacities to smallholder farmers in 14 municipalities in the Dry Corridor, leading to the implementation of adaptive, ecosystem-based measures and actions. 1.1 Capacity building program for SNPCC Institutions and smallholder farmers, developed and implemented with the participation of women and indigenous peoples.	This component will ensure community and sub-national authorities' ownership and maintenance of assets and approaches disseminated by the project, as an important ingredient for sustainability and cost-effective investment. The project will ensure that the activities undertaken respond to needs and demands of communities, by identifying and addressing barriers that prevent people from adopting those practices driven by the project. The participatory planning and implementation of measures allows also for important savings in terms of: i) identifying those practices and tools that are most likely to be adopted in a sustainable way; and ii) the logistical cost of targeting and providing services to participants by partnering with local counterparts such as municipalities, NGO's or cooperatives.
Component 2: Restoration of forest landscape so it generates ecosystem services. 2.1 The forest landscape is restored and begins to generate ecosystem services.	Many of the NbS are implemented at a landscape or ecosystem scale. They have critical importance to agriculture, as they can generate important benefits in the production of food and other agricultural products, and the usually include agricultural producers as implementing partners. Even when NbS are being implemented at an individual farm or local project, it is important to plan for landscape scale deployment, both to maximize benefit and to understand impact if actions are scaled up. Examples of landscape-scale NbS are: avoided forest and grassland conversion (with an estimate of 23 Pg CO_2e/yr of climate mitigation on average); natural forest management; or fire risk management. FAO Nicaragua has been working since 2020 in the elaboration of a "Catalogue of measures for adaptation to climate change in the dry corridor (Agriadapta)", which provides costs and methods for the adoption of measures for tree cover increase.
Component 3: Rehabilitation of agricultural livelihoods at farm level, using climate-smart agriculture practices. 3.1 Crop, silvopastoral and agroforestry systems are established and/or improved by using selected seeds and practicing sustainable soil and water management practices. 3.2 Promotion of resilient livelihoods through diversification and access to markets for at least two crops using sustainable land management practices and with the participation of women and indigenous peoples.	NbS may occur also directly in the realm of agricultural production and grazing management and are implemented primarily by farmers or producers. These activities may create direct economic benefit to the producer, in terms of increased yields or reduced costs, in addition to broader societal benefit. If the benefits to the landowner are sufficient, technical assistance and transition funding may be sufficient to achieve lasting changes. Many of these practices align with an emerging field of practice called 'regenerative agriculture'. The catalogue Agriadapta (mentioned above) provides costs and methods for the adoption of measures for the sustainable management of soil, water and the agricultural production as a whole.
Component 4: Capture and dissemination of knowledge and lessons from the project, as well as participatory monitoring and follow-up to the activities implemented. 4.1. A knowledge and communications management strategy, with the participation of women and indigenous peoples, is developed and implemented. 4.2. A project follow-up, monitoring and evaluation system, with the participation of women and indigenous peoples, is developed and implemented.	This component capitalises on previous and ongoing initiatives by drawing on their experiences and lessons learned. This, together with partnering with different government and non-government actors, will allow the project to reduce the need of testing pilot areas and developing new tools, methodologies and approaches, with the associated saving in costs and time that is usually needed to adjust successful models.

D. Consistency with national or sub-national sustainable Development Strategies (Project alignment with government priorities)

118. The project is aligned with the National Human Development Plan 2018-2021 (Government of Nicaragua, 2017)[51]. Also, the project is aligned with the Plan to Fight Poverty 2022-2026[52] and with the creation of the National Climate Change Management System and establishment of the principles and guidelines of the National Climate Change Policy through Presidential Decree 15-2021[53]. Article 5 in this Presidential Decree refers to functions of the national system of climate change management and includes the validation and submission for presidential approval of the National Plan of mitigation and the National Plan of adaptation. Article 10 refers to the principles of the National Policy of climate change and adaptation measures are explicitly mentioned. Also, the project is aligned with the updated Nationally Determined Contributions (NDC)[54] and with the Third National Communication (MARENA, 2018)[55].

119. The project is aligned with national family agriculture promotion strategy for food and nutritional security (2019–2021) (MEFCCA, 2019)[56] and the National Plan for Production, Consumption and Trade 2021/2022 that are being implemented by the National Production, Consumption and Commerce System (SNPCC)[57].

120. This project is to contribute with the National Strategy for the Reduction of Emissions due to Deforestation and Forest Degradation (ENDE - REDD+ 2008 – 2040-MARENA, 2018)[58]. It also aims to contribute to the enforcement of the country's Forestry Law, the National Forestry Policy and the National Forestry Programme.

Table 5. Project alignment with government priorities

Government priorities	Project contribution
National Human Development Plan 2018-2021	It contributes with actions related to the prioritises the conservation and recovery of soils, water and forests; the promotion of the modernisation and transformation of the agriculture and animal husbandry sectors in a setting marked by climate change; the improvement of education, awareness-raising and human and institutional capacities as concerns climate change mitigation, the reduction of its effects and early warnings; and the coordination of participatory environmental management with smallholder farmers, communities and local governments in attendance, focusing on adaptation and mitigation
Plan to Fight Poverty 2022-2026	It contributes with actions related to facing the impacts of climate variability and climate change through sustainably managing forests, fighting desertification, halting and reversing land degradation, and halting the loss of biodiversity. Likewise, reinforcing the design and implementation of environmental policies, programs and projects for the protection of natural resources.
Creation of the National Climate Change Management System and establishment of the principles and guidelines of the National Climate Change Policy through Presidential Decree 15-2021	The policy contains a number of guidelines for adaptation to climate change, some of which are aligned to the proposal set forth in the Concept Note: i) agricultural and animal husbandry development that is resilient to the impacts of current and future climate variability, with low carbon emissions; ii) the use and conservation of ecosystem services to achieve low-emissions economic development adapted to climate change; and iii) conservation, restoration and rational forest use, as well as the promotion of forest plantations in areas with forestation potential.
Nationally Determined Contributions (NDC)	The project is aligned with the updated Nationally Determined Contributions (NDC) through the promotion of land management and reforestation; improved capacity development towards the development of a climate-resilient agricultural sector; and the protection of forest ecosystem services provided by forests for the most vulnerable native communities and small forestry producers.
National Family Agriculture Promotion Strategy for food and nutritional security (2019	This project contributes to proposes to strengthen family agriculture by diversifying food production, promoting the use of technologies as appropriate in each geographic area, promoting crop processing and conservation, the consumption of healthy and nutritious

[51]Government of Nicaragua (2017). Ejes del programa nacional de desarrollo humano 2018-2021
[52] http://www.pndh.gob.ni/descargas.aspx
[53] Decreto Presidencial (2021) http://legislacion.asamblea.gob.ni/Indice.nsf/9499521c0ebc358b06256ff80049dd33/d85a8e19533693df0625703500527004?OpenDocument&ExpandSection=-1 . This Presidential Decree repeals Presidential Decree 7-2019.
[54]MARENA (2020). Updated Nationally Determined Contribution
[55] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change
[56]MEFCCA (2019). Estrategia nacional de promoción de la agricultura familiar para la seguridad alimentaria y nutricional (2019 - 2021)
[57] MEFCCA. Estrategias Nationales. [Online] Documentos (economiafamiliar.gob.ni)
[58] MARENA (2018). Third National Communication to United Nations Framework Convention on Climate Change

Government priorities	Project contribution
– 2021)	foods, and income generation based on the sale of surplus production
The National Plan National Plan for Production, Consumption and Trade 2021/2022	This project contributes to the National Plan for Production, Consumption and Trade 2021/2022, to promote the commercialization of agricultural products in the national and international market, as well as the Productivity Policy that aims to improve the productivity and yields of the main items of socioeconomic dynamization; and guarantee a nutritious and healthy diet in conditions of equity, with social and environmental responsibility. The research and productive innovation policy that is oriented to continue generating agricultural biotechnologies and agricultural practices that increase productive yields, making them available to small and medium producers, in such a way that they can transcend towards sustainable and resilient productive systems to Climate Change. The policy of Conservation and Protection of Mother Earth, which prioritizes the strengthening of the country's resilience and adaptive capacity, as well as the transition to an economy based on nature and low in carbon emissions
ENDE - REDD+ 2008 – 2040	This project contributes to strategy has as objectives i) to reduce GGE caused by deforestation and forest degradation; ii) to conserve and improve forest carbon reserves; iii) and to contribute to the protection of Mother Earth vis-à-vis climate change. The strategy was designed in a participatory manner and is nationwide in scope. Also ENDE-REDD+ is based on the promotion of sustainable forestry production, food security, the resilience of vulnerable areas, the protection of water recharge zones and the development of a financing mechanism. In addition, as an implementing platform, it takes into account the strengthening of strategic alliances, interinstitutional coordination and forest governance (MARENA, 2018).
Forestry Law, the National Forestry Policy and the National Forestry Programme.	This project contributes to the National Reforestation Crusade, the National Plan for the Prevention and Control of Forest and Agricultural Fires and the Community Forestry Strategy.
Law to Promote Agroecological or Organic Production (2011)	This project contributes to promoting the development of agroecological or organic production systems through productive uses and practices aimed at reversing land and vegetation degradation, soil erosion, loss of the topsoil and fertile lands in arid, semi-arid and dry sub-humid areas, caused mainly by inappropriate human activities and by climate variations, according to the capacities and vocations of ecosystems and agro-ecosystems.
Equal Rights and Opportunities Law No. 648 – 2008	This project contributes to promoting gender equality established by this national law, supporting actions that facilitate the closing of gender gaps and promoting the empowerment of rural women through technical and technological assistance and comprehensive training opportunities without any type of discrimination. Also supporting the promotion of environmental management financing, in projects for the protection, conservation and national use of natural resources that alleviate the workload of women and the poverty of families.
Policy of Generation and Transfer of Technological Practices within the National Plan to Combat Poverty 2022-2026 [59]	The project is aligned with this policy that promotes the participation of producer families, and is focused on providing solutions to the challenges of climate change, through technologies in agricultural research, in agri-food research; and production of seeds of superior categories. The Nicaraguan Institute of Agricultural Technology (INTA) participates in the project, which will support the dissemination of available technical guides and manuals, as well as the development of new research on varieties of bean and corn crops with morphological and physiological characteristics that allow their adaptation. to the agroclimatic conditions of the Dry Corridor: resistance to droughts, high temperatures, pests and diseases, tolerance to salinity and waterlogging, and more productive.

E. Compliance with relevant national technical standards (project alignment with legislative base)

121. The project is aligned with national laws and regulations, as detailed in the table below. It is also in keeping with the Environmental and Social Policy (ESP) of the Adaptation Fund, the FAO Gender Policy and its Social and Environmental Safeguards Policy.

122. The extensive proposal will analyse in detail how the activities proposed line up with the regulation covering its sphere of action, describing how it complies with the pertinent environmental regulation, including issues such as land tenancy /use, and associated resources. It will also detail how the project intends to approach the principles set forth in the Adaptation Fund's ESP. Further, an Environmental and Social Management Plan will be drawn up. Controls will be implemented to ensure that the project does not deepen inequalities or have a

[59] http://www.pndh.gob.ni/documentos/pndhActualizado/07_LINEAMIENTO_VII_(19jul21).pdf

negative impact on marginalized populations and the environment.

Table 6. Regulations, standards and relevant procedures

Specific outcomes / outputs expected	Regulations, standards and procedures relevant to compliance with FA principle 1	Compliance, procedures, authorized offices
Component 1. Transfer of capacities to smallholder farmers in 14 municipalities in the Dry Corridor, leading to the implementation of adaptive, ecosystem-based measures and actions. 1.1 Capacity building program for SNPCC Institutions and smallholder farmers, developed and implemented with the participation of women and indigenous peoples.	Equal Rights and Opportunities Law No. 648 – 2008	Nicaraguan Women's Institute
Component 2: Restoration of forest landscape so it generates ecosystem services. 2.1 The forest landscape is restored and begins to generate ecosystem services.	Law 462 (2003) Nicaragua Forestry Law and its enabling regulations Emissions Reduction Strategy due to Deforestation and Forest Degradation (ENDE - REDD+ 2008 – 2040)	Ministry of the Environment and Natural Resources (MARENA)
Component 3: Rehabilitation of agricultural livelihoods at farm level, using climate-smart agriculture practices. 3.1 Crop, silvopastoral and agroforestry systems are established and/or improved by using selected seeds and practicing sustainable soil and water management practices.	Presidential Decree: Soil Protection and Erosion Control Law (1983) National General Water Law (Ley 620, 2008) and its enabling regulations National Bovine Cattle Development Strategy National Strategy to Increase Bean Productivity 2019 – 2023 National Strategy to Promote Family Agriculture for Food and Nutritional Security 2019 – 2021	Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA) Ministry of Agriculture and Livestock Nicaraguan Institute of Agricultural Technology (INTA)
3.2 Promotion of resilient livelihoods through diversification and access to markets for at least two crops using sustainable land management practices and with the participation of women and indigenous peoples.	Law to Promote Agroecological or Organic Production (2011) National Strategy to Promote the Marketing of Agricultural and Livestock Products in National and International Markets 2020 - 2023	Ministry of Agriculture and Livestock Nicaraguan Institute of Agricultural Technology (INTA)
Component 4: Capture and dissemination of knowledge and lessons from the project, as well as participatory monitoring and follow-up to the activities implemented. 4.1. A knowledge and communications management strategy, with the participation of women and indigenous peoples, is developed and implemented. 4.2. A project follow-up, monitoring and evaluation system, with the participation of women and indigenous peoples, is developed and implemented.	Equal Rights and Opportunities Law No. 648 – 2008	Nicaraguan Women's Institute

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

if any.

123. Within the project formulation process, a mapping of the interventions of previous and ongoing projects will be carried out to guarantee complementary and not duplicated activities in the coinciding municipalities, and thus expand resilience actions in the dry corridor. The use of lessons learned and good agricultural, environmental and resilience practices generated by other projects will significantly reduce the need for piloting within this project, which will speed up the start of implementation actions.

124. Although Nicaragua and the rest of countries of Central America are part of one of the most vulnerable regions to climate change, the level of international climate finance earmarked for adaptation and mitigation actions in the region is clearly insufficient and more funds are needed in order to meet the pressing and increasing needs. A study by the Central American Institute for Fiscal Studies (ICEFI, 2018)[60], based on statistics from Climate Funds Update (CFU), reflected that between 2003 and 2018 only USD 243.3 million had been approved for Central America in resources from the largest international climate funds. This represents only 1.5% of the total funds approved worldwide. Of the approved funds, 55% are allocated for mitigation actions, 25% for adaptation, 11% for REDD and 9% for multiple goals. The most recent figures available by the CFU (as of March 2021), show how Nicaragua has received only USD 33.2 million out of the USD 118.5 million approved.

125. In the framework of multi-criteria analysis carried out for the selection of the intervention area, the existence of coincident municipalities between different projects and programs represents for the Government of Nicaragua an opportunity for scalability of current investments, reinforcing the generation of benefits on a larger scale, as well as an opportunity to generate multiple environmental benefits from the establishment of synergies between different initiatives.

Table 7. Complementarity and synergy with related projects

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
Environmental risk management program for disasters and climate change (NI - L1048 / PAGRICC) (IDB, FND and SDC) / (2010-2016)	The project ended in 2016 and supported the adoption of environmental restoration systems. Activities were supported to implement agroforestry and silvopastoral systems, management of natural regeneration and forest management in the farms of 4,895 beneficiaries, intervening in the management of the two sub-basins and 9 municipalities: del Río Viejo (municipalities of Ciudad Darío, La Trinidad, Estelí, Sébaco, San Isidro, San Rafael del Norte, El Jicaral and La Concordia) and Lago de Apanás (municipality of Jinotega). Its other components focused on building flood prevention and mitigation works in urban and rural areas of these 9 municipalities.	Although the PAGRICC project supported the restoration of the forest in productive farms in these 9 municipalities of the Dry Corridor, it achieved a recovery of the tree cover of 22,090 ha[61], which represents 10% of the area of both sub-basins. The project developed 7 low-cost and locally proven restoration alternatives that will be used as a basis to increase this restored coverage in the municipalities. The focus of this project was oriented to local institutional strengthening around adaptation to climate change. However, in this case, the focus of this project is centered on small local producers and specific actions in their crops and relevant ecosystems that allow them to improve their local productive capacity and improve their livelihoods through productive diversification and commercialization. of the production. **Synergies:** The project will take the 7 low-cost and locally proven restoration alternatives as the basis for the proposed restoration actions. Likewise, the lessons learned to mitigate the negative effects of the drought between 2014-2016 will be taken to reduce the vulnerability of small producers to

[60] https://mail.icefi.org/sites/default/files/financiamiento_climatico_en_ca_-_una_mirada_desde_la_descentralizacion_energetica.pdf

[61] https://www.iadb.org/projects/document/EZSHARE-915164154-6?project=NI-L1048

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
		phenomena associated with climate change; and successfully restore natural resources to recover ecosystem services. Likewise, the ancestral practices of indigenous peoples promoted by this project will be taken into account to expand their use and the exchange and conservation of these local climate-resilient practices. **Non-duplication actions:** In the design of the full proposal, interventions will be targeted to areas of the coinciding municipalities where the PAGRICC project did not intervene, information that is available thanks to the fact that MARENA was also the executor of this project. As indicated above, the PAGRICC project reached a coverage of only 10% of the basins where it intervened. The continuation of the work on the Río Viejo sub-basin (where the coinciding municipalities are located) is of strategic importance for Nicaragua and Central America due to its location in the upper zone of Basin 69, the basin of the great Nicaraguan lakes and the river San Juan. This basin is the second largest in Central America, hence the importance of continuing to contribute to introducing measures for its protection and restoration.
Innovation and dissemination of agricultural adaptation to climate change technologies (AGRIADAPTA) (SDC / FAO) (2016-2022)	The project works in 10 municipalities of the Nicaraguan dry corridor, through the implementation of 60 community initiatives that facilitate the construction of soil and water conservation works, increased tree coverage and water harvesting. The municipalities where they intervene are Ciudad Darío, Teustepe, El Jicaral, La Concepción, Nagarote, Nindirí, San Francisco Libre, Santa Rosa del Peñón and Villa El Carmen and El Crucero.	**Synergies:** The agroecological practices carried out by Agriadapta will be taken into account as part of the climate-smart agriculture approach that the project will implement, as well as the good practices related to the establishment of regeneration or reforestation areas to reduce the vulnerability of small producers to phenomena associated with climate change. The focus of this project has been focused on the identification and assessment of agroecological and social practices, albeit in a demonstrative way. The AF project will allow these good practices to be scaled up in these 14 selected municipalities. **Non-duplication actions:** Agriadapta's emphasis is on the transfer of capacities to local technicians and promoters, and the generation of knowledge through the establishment of pilot sites, so the local coverage of actual investments for the implementation of technologies and practices for adaptation to climate change is limited. The AF project and Agriadapta only coincide geographically in 3 municipalities. During the design process of the full proposal, the necessary coordination measures will be established to avoid duplication of actions in capacity building, particularly in the training of local promoters in those municipalities
Water Harvesting for the Adaptation of Agriculture to	The project works on the construction of reservoirs to store water from stormwater	The project focuses on building water harvesting systems and they have delivered

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
Climate Change Through Water Capture in Nicaragua. (SDC / CATIE) (2019-2022)	runoff as a means to transform agricultural and livestock production systems. Specifically in 10 municipalities located in the dry corridor of Las Segovias: Ciudad Antigua and Mozonte (Nueva Segovia); Somoto, Totogalpa, Telpaneca, Palacagüina, Yalagüina and San Lucas (Madriz); New Town and Condega (Estelí). The project also includes the design of a strategic methodological framework that strengthens marketing and inclusive agribusiness, so that they link small-scale rural producer families to better market opportunities.	and installed more than 300 drip irrigation systems for 1/8 of a block and by the end of 2022 they expect to complete the delivery of another 1,000 systems, to the same number of beneficiary families. . **Synergies:** The project will take advantage of the work of promoting associative models to work on component 3 related to the commercialization of the production of small producers. The incorporation of basic grain producers benefiting from this project will be encouraged. Actions related to the harvesting of rainwater will be identified in order to generate additional actions to protect the water recharge zones to improve water availability. According to the IDB (2019) "only 5% of family farming producers in the Nicaraguan dry corridor have access to irrigation", which is why increased investment in this area is still relevant. **Non-duplication actions:** A mapping of water harvesting actions will be carried out and new areas will be identified to protect water recharge areas in the intervention areas.
Sustainable Development of Rural Families Living in the Dry Corridor of Nicaragua (NICAVIDA) IFAD-CABEI[62] (2017-2023)	The project works through territorial investment plans, family plans and business plans that cover families linked to small-scale family farming systems, in transition and commercial family farming. The NICAVIDA project has concentrated its actions on water, sanitation and hygiene systems, seed banks and school gardens. The project covers 58 municipalities within the Dry Corridor, among them Somoto, San Juan de Limay, Teustepe and San Lorenzo are some of the municipalities of coincidence,	**Synergies:** The project will be able to support NICAVIDA beneficiaries in the association and commercialization of their agricultural products in local markets. The work carried out with the seed banks will be part of the elements to be considered, linking the beneficiaries of this project to expand the benefits to small farmers and the resilience of their local crops. The infrastructure created by the NICAVIDA project to improve rural roads will support the actions proposed to link and access markets for small producers to improve their income. **Non-duplication actions:** The productive diversification of basic grain producers, as well as the promotion and incorporation of ancestral practices that are resilient to CC and the exchange of knowledge and commercialization of agricultural products, are some of the differentiating elements of our proposal. Likewise, the NICAVIDA project does not contain actions for the restoration of ecosystems, this project being relevant to generate additional actions that allow promoting the hydric recharge of the area that allows, in turn, to improve the availability of this resource to guarantee food security and avoid losses associated with the lack of

[62] https://www.ifad.org/documents/38711624/39485445/Nicaragua+2000001242+NICAVIDA+Interim+Mid-term+Review+Report+April+2021.pdf/086aee15-8ef2-66c9-86e4-5cff1e923d58?t= 1622631057760

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
		this resource.
Nicaragua's Dry Corridor Nutrition-Sensitive Agriculture Project (World Bank -P164134 63-FUNICA) (2021-2025)	The objective of the project is to strengthen the agricultural productivity, climate resilience and nutritional security of 1,500 families in 6 selected municipalities of the Dry Corridor of Nicaragua, through two components: (i) strengthening the productive capacities of farmers and agri-food processors through improved agricultural technologies. and (ii) Promotion of improved food and nutrition security by promoting NSA approaches through an information campaign.	**Synergies:** The necessary coordination will be carried out to link local producers benefiting from basic grains and their diversification in this project with the seed banks developed by FUNICA and the lessons learned from the development of these seed banks in the other municipalities targeted for conservation will be taken of local genetic resources. The adaptation fund proposal can complement the focus of this project, through the ecosystem-based adaptation actions promoted by this proposal. A mapping of the interventions of this project will be carried out during the formulation phase of the funding proposal in order to generate complementary activities within the coinciding municipalities and thus expand resilience actions in the dry corridor. **Non-duplication actions:** The incorporation of climate-smart agriculture practices, incorporating resilient ancestral techniques such as espeque and guasaya and actions related to the restoration of ecosystems, are some of the complementary elements to be applied with the project. These complementary approaches will be identified in potential beneficiaries of the FUNICA project and will focus on serving new beneficiaries in the coinciding municipalities to expand the scale of coverage in small producers in the dry corridor.
Resilient landscape management 2020-2025 (GEF ID 9579)[64] GEF / FAO	Strengthen the National System of Protected Areas and support the sustainable use of land and the restoration of selected areas in the Dry Corridor and the North Caribbean Coast, with the objective of promoting the conservation of biodiversity, resilient landscapes and local livelihoods. The objective of the project is focused on improving the management effectiveness of Protected Areas and the generation of biological corridors for the generation of connectivity. It includes in its components 1 and 2 a pilot project of payment for results (ENDE-REDD + and Sustainable Land Management (SLM) in the Corredor del Pino). To this end, the project will work specifically with pine producers to promote conversation and restoration of this species	No duplication of the project has been identified as this GEF project works primarily in protected areas that are not part of the AF proposal. Synergies: However, the proposed project may take into account the lessons learned related to component 2 in two of the municipalities prioritized: Somoto and La Trinidad. Non-duplication actions: When designing the full proposal, the best practices, results and lessons learned in the environmental restoration systems will be carefully examined, to take them into account in the design of component 2.
Strengthen resilience in protected areas.	Multiple global environmental benefits generated through Sustainable Forest Management and Sustainable Land	No duplication of the project has been identified since geographically there is a very limited overlap in a biological corridor

[63] https://documents1.worldbank.org/curated/en/975401593033707130/pdf/Project-Information-Document-PID-Nicaragua-Dry-Corridor-Nutrition-Sensitive-Agriculture-Project-P164134.pdf

[64] https://www.thegef.org/project/resilient-landscapes-management-project

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
2020-2025 (GEF ID 5277)[65] GEF / FAO	Management outside protected areas (PA). The project's work objective outside of Protected Areas management is related to the creation of consolidated biological corridors to improve connectivity between existing protected areas and threatened tropical forest habitats in productive landscapes.	that passes through two of the 14 prioritized municipalities, Teustepe and San Lorenzo. **Synergies:** Although the focus of the project is the protection of biodiversity, good restoration practices applicable in municipalities with similar characteristics may be taken into account.
"Strengthening of institutional and technical capacities in the agricultural and forestry sectors in Nicaragua in response to the requirements of the Enhanced Transparency Framework within the framework of the Paris Agreement". 2020-2022 (GEF ID 10118)[66] GEF / FAO	This project seeks to comply with the requirements of the enhanced transparency framework (ETF) under the Paris Agreement and does not consider field activities, only at the central level and in terms, mainly, of planning and coordination between different actors and stakeholders The project, includes the strengthening of institutional capacities (INTA, INAFOR, MARENA, INETER, MEFCCA) in terms of requirements of modalities, procedures and guidelines (MPG) in the agricultural and forestry sectors. This will be done by strengthening inter-agency coordination mechanisms in relation to the Enhanced Transparency Framework (ETF) under the SNRCC; training on the contents of the ETF with regard to adaptation; NDC and technology transfer received and required in accordance with the MPG. Component 3. Outcome 3) Education, awareness and strengthening of human and institutional capacities in improved and prioritized sectors will strengthen the dissemination of good practices for adaptation and dissemination to climate change, strengthen the SINIA platform, and support environmental education activities.	**Synergies and non-duplication actions:** There is no duplication, since the CBIT project is linked to institutional strengthening for the reporting of national commitments to the UNFCCC and does not consider field activities, only at the central level. The project will be able to generate inputs on good practices and lessons learned in adaptation to climate change, which can be taken by the CBIT to strengthen the SINIA platform and support environmental education activities. Additionally, they may include information on the institutional coordination generated in the project activities and reported for the strengthening of SINIA.
Bio-CLIMA: Integrated climate action to reduce deforestation and strengthen resilience in BOSAWÁS and the biospheres of Río San Juan 2021-2027 / FP146[67] GCF / CABEI	The objective of the project is to introduce an integrated climate action to reduce deforestation and strengthen resilience in the BOSAWAS and Río San Juan biospheres. Among the most relevant actions are the restoration of degraded lands through silvopastoralism and agroforestry. Conserving, managing and restoring natural forests, improving access to high-value markets of farmer cooperatives and community enterprises, strengthening institutional capacities of environmental authorities and governments of indigenous territories, as well as local capacities and stakeholder participation.	Both projects do not present geographic coincidences, since this project works on the Caribbean coast of Nicaragua, which is not part of the dry corridor. And the markets component is related to products such as coffee, cocoa, meat and milk. **Synergies:**The project may take into account those ancestral and resilient practices identified in the work with indigenous peoples and that are applicable to other crops to be worked in the Nicaraguan dry corridor.

[65] https://www.thegef.org/project/strengthening-resilience-multiple-use-protected-areas-deliver-multiple-global-environmental

[66] https://www.thegef.org/project/strengthen-institutional-and-technical-capacities-agricultural-and-forestry-sectors

[67] https://www.greenclimate.fund/project/fp146

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
Ecosystem-based adaptation to increase climate resilience in the Central American Dry Corridor and the Arid Zones of the Dominican Republic. GCF / CABEI-FP174[68] (2022-2028)	This project aims to strengthen the adaptation capacity and climate resilience of vulnerable rural communities, including farmers and entrepreneurs, in the Dry Corridor region of Central America and arid zones of the Dominican Republic. Through funding and technical assistance, the program will encourage private sector engagement and create an environment conducive to investment and adoption of large-scale ecosystem-based adaptation technologies and energy- and water-efficient technologies. In Nicaragua, it focuses on the Upper Coco River Basin. Municipalities: Somoto, Yalaguina, Palacagüina, Telpaneca and El Jícaro.	This project has recently been approved. A first year of installation is estimated in 2022 and concrete field actions are not expected before 2023. Coordination will be carried out as soon as this project begins its operations in order to generate complementary activities within the coinciding municipalities (3) and thus expand resilience actions in the dry corridor. The main component of this regional project is the establishment of financial mechanisms (credit and guarantee) for the large-scale adoption of Ecosystem-based Adaptation (EbA) activities and technologies for the efficient use of water and energy. The project will work through associated financial institutions (IFA) of the National Financial System **Synergies:** The Adaptation Fund proposal allows its results to be scaled up through the project of this new proposal approved by the GCF. Although adaptation pilots are geographically limited to a few basins, the mechanisms that can be designed have the potential to be extended to the rest of the country where the products are applicable, including those intervention municipalities considered for the AF proposal but not included in the GCF project. This project will design financial mechanisms for adaptation to be developed in the Nicaraguan dry corridor, which offers an opportunity for additional financing and scaling up of actions for the beneficiaries of the adaptation fund proposal, as well as incorporating additional beneficiaries in the municipalities. objective. This project will take into account climate change adaptation practices for agricultural production that can complement the Climate Smart Agriculture approach that will be promoted. Likewise, good practices in forest restoration, plantations for firewood and sustainable wood and efficient use of water linked to small-scale family farming systems will be taken into consideration. .in 900 Ha, agroforestry systems in 330 Ha **Non-duplication actions:**These complementary approaches will be identified in potential beneficiaries of the GCF project and will focus on serving new beneficiaries in the coinciding municipalities to expand the scale of coverage in small producers in the dry corridor, including good practices related

[68] https://www.greenclimate.fund/project/fp174

Project and implementation dates	Characteristics	Entry points for project coordination and additionality
		to restoration and climate-smart agriculture. The regional project contemplates the realization via donation of 12 EBA demonstration activities in the intervention municipalities and four for the efficient use of water and energy, activities that will serve as an example of actions that can be financed by financial mechanisms once they are established. In order to avoid duplication of actions, the regional project in the four coinciding municipalities will prioritize the financing of those activities not contemplated by the AF, such as the establishment of forest plantations, the construction of surface drains for soil conservation, the community supply of drinking water, or sustainable charcoal production.

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

126. The project will develop a knowledge and communications strategy (output 4.1) in support of compliance with the outcomes as planned by component, with the following objectives:

- ✓ Capturing and sharing the knowledge generated based on the rehabilitation of agricultural / animal breeding livelihoods and their impact on the restoration of the ecosystem and its functions.
- ✓ Empowering actors in the application of ecosystem-based adaptive measures and actions, as well as climate-smart agriculture, based on solid, agreed-upon and shared knowledge.
- ✓ Visibilising knowledge on skills and changes achieved by attending the Capacity Development Units through Field Schools (ECA) and other learning processes with a gender and indigenous focus.
- ✓ Systematising and sharing information, experiences and lessons for purposes of internal and external learning (to be done periodically).

127. Beforehand, and given that knowledge-capture activities and the empowerment of actors will be in the hands of the technical team and that specific types of knowledge and skills are needed, the strategy will include an analysis of the knowledge gaps that must be closed. To that end, it will design a capacity building plan for team members on issues such as knowledge management, the gender approach, social equity, communications and the involvement of actors. Knowledge management will include organizing workshops for extension technicians and farmers for disseminating climate information and response adaptation measures using locally-relevant delivery mechanisms as virtual platforms, electronic means, telecommunication with radio or TV, visits of the extension workers and use the development of the farms functioning as schools of field and learning centers at the community level and at the municipal level to use the Telecentres in operation by INTA in coordination with the Municipalities for knowledge generation and sharing.

128. Likewise, working jointly with the team, platforms required to manage the knowledge captured will be identified: an internal storage space, access to the information (documents, reference information, photographs, digitised materials) and collaborative work, as well as one or more dissemination channels, such as creating a web site and social network, for the purpose of sharing and disseminating the knowledge output and the information generated (publications, news, computer graphics, blogs).

129. Internally, the project should document the experiences and select the relevant learning sites where to demonstrate the application of measures to adapt to climate change, forest landscape restoration and climate-smart agriculture practices in the dry corridor, which can be valuable for the Adaptation Fund, for the country and for other projects.

130. To that end, systematization workshops will take place, for two purposes: a) capture information and analyse experiences for the purpose of detecting which changes have taken place, who the actors involved have been, what strategies were implemented and what results were obtained; and b) know the lessons

generated, success factors and practical recommendations by which to replicate or scale up the experience.

131. The project will draw up forms for the purposes of gathering information, new knowledge and lessons learnt that must be used by the team in order to ensure the proper systematization of experiences and impact awareness by gender and ethnic group.

132. At external level, and in addition to the results of the study on gender relations, it will be necessary to define what knowledge, attitudes and practices (KAP) need to be modified in order to meet the project's objectives. The KAP analysis will also establish the strategies to be applied for each public objective (awareness-raising, persuasion, sensitization, motivation), in order to facilitate the participation and empowerment regarding adaptive actions, the capacities development project, the ECAs, incentives, adaptive technologies, the strengthening of a sales strategy, access to markets and affirmative action to promote gender equality.

133. The project will work with another group of key actors on governance agreements and investment plans leading to forest landscape restoration in municipalities with smallholder populations. Here the strategy will include activities around access to relevant information and the generation of new knowledge on the positive impact of ecosystems, the well-being of persons, the improvement of soil productivity, the regeneration and restoration of forest cover and sustainable production, as a means of motivating involvement, participation and informed decision-making.

134. The strategy will determine the knowledge and communications outputs that are to be generated in order to gather the existing knowledge on adaptation measures and the bridging of gaps found in the information. These outputs, to be gathered on different forms, must be generated in accordance with the communications guidelines to be established.

135. In the case of the capacity development program and the ECAs (component 1), it will be taken advantage of the development of learning sites on farms to be selected in each municipality where there are already experiences of adaptation practices with ancestral, indigenous and / or knowledge. or from projects previously developed in the project area and the workshops and program design meetings to gather information on the type of knowledge material that needs to be produced for on-farm learning (guides, manuals, videos, games) and the channels through which knowledge will be reinforced (brochures, radio spots, peripherals, material for local events). As concerns forest restoration actions and climate-smart agriculture, in addition to the training materials aimed at the target populations, the strategy must identify which knowledge outputs (publications, maps, reports, infographics) and which actions (lobbying, media dissemination, public debates) will be necessary for purposes of exerting public influence on mayor's offices and the national government.

136. An important activity by which to generate and share knowledge will be the forging of alliances with external actors in order to expand the reach of the adaptation and resilience measures being proposed. One example of this will be actions that can be planned upon analysing the synergies with two MEFFCA-led projects that are being implemented in the zone in order to ensure food security. It will be necessary to investigate whether on the matter of marketing other types of alliances are needed with private companies.

137. Regarding knowledge transfer and exchange, in addition to the communication channels and spaces defined by the strategy, the project must take advantage of those pertaining to FAO, MARENA and the Adaptation Fund, as these can help extend the scope of dissemination and open opportunities for exchanges at national and international scales. The Adaptation Fund's website, for instance, contains a section on knowledge and learning that promotes knowledge outputs, events and even scholarships that could serve to increase the impact of the activities.

138. The project must set up a dynamic monitoring and follow-up system (output 4.2), with a gender and indigenous focus, that facilitates the evaluation, adaptive management, understanding of the impact and dissemination of results.

139. The follow-up, monitoring and evaluation system must contain:

- ✓ The indicators proposed and the percentage of annual compliance, in accordance with the APO;
- ✓ The means of verification (quantitative and qualitative evidence) that evidence the monitoring of each indicator;
- ✓ Warnings regarding progress or delays on the path to meeting outcomes;
- ✓ Compliance with project milestones;

- ✓ The lessons learnt and associated adaptive management measures.

140. The creation of a Follow-up Committee with FAO and MARENA staff, as well as other key partners and actors will be important in terms of taking pertinent adaptive management actions in an effective and timely manner.

141. The system will require the use of software (which may be free access), to be fed periodically and that will provide the information needed to prepare the reports requested by the Adaptation Fund:
- ✓ Annual Project Performance Report (PPR);
- ✓ Final Evaluation (FE);
- ✓ Knowledge outputs for the FE – studies, analyses and reports on lessons learnt; articles, videos and stories for publication on the website.

142. For purposes of accountability and positioning, the follow-up system will favour transparency and knowledge / information transfer. This is to take place through the Milestones Dissemination Plan and the annual publication and public presentation of outcomes at national or international events.

Table 8. Expected outcomes and outputs regarding knowledge management

Expected outcomes	Stakeholders and learning objectives	Knowledge product
4.1 Knowledge and communications management strategy in support of compliance with the planned outcomes for each component.	The project team • Strengthens capacities on strategic project issues. The project team and decision-makers: • Capture and share the knowledge generated from the rehabilitation of agricultural livelihoods and their impact on the restoration of the ecosystem and its functions, valid for decision-making purposes. Beneficiary smallholder farmers: • Enhance capacities and empower these actors to apply adaptive ecosystem-based measures and actions, climate-smart agriculture, based on solid, agreed-upon and shared knowledge. Decision-makers, beneficiary smallholder farmers, donors: • Visibilise knowledge on skills acquired and changes achieved through the ECA and other learning processes with a gender and indigenous focus.	• Training materials • KAP analysis • Policy brief with evidence of the impact caused by ecosystem-based adaptation measures and public policy recommendations. • Publication on ecosystem-based adaptation measures in the Dry Corridor and its impact on the ecosystem and livelihoods. • Guide to good ecosystem-based adaptation practices. • Educational material in support of training project. • Community radio campaign on ecosystem-based adaptation and good practices. • Audio-visual series on restoration. • Network of women resilient to climate change • Documentary series on traditional knowledge useful to adaptation to climate change. • Policy brief to reduce development opportunity gaps by gender and ethnic group.
4.2 A dynamic monitoring and follow-up system with the participation of women and indigenous peoples that facilitates evaluation, adaptive management, understanding of the impact and dissemination of outcomes.	Project team: • Facilitates decision-making on adaptive management. • Periodically systematises and share knowledge, experiences and lessons learnt, for purposes of internal and external knowledge acquisition. • Visibilises the impact reached in the development of women's and ethnic groups.	• Document on lessons learnt during project implementation. • Webinar series • Case study on the implementation of successful ecosystem-based adaptation. • Document on lessons learnt regarding climate-smart agriculture. • Case study of a successful marketing alliance achieved by a women's group or ethnic association.

	Donors: • Informed on impact reached and outcomes met	• PPR reports • Annual publication on milestones reached • Final Evaluation

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.

143. During the months of December 2020 to July 2021, as part of the process of formulating the concept note, nine participatory meetings and three local consultation workshops were held, one in Estelì on May 19, a second in Managua on May 21 and a third in Estelí on July 7, 2021 aimed at the two municipalities with the presence of the Chorotega Indigenous People, under the leadership of MARENA and technical support from FAO, with the participation of officials from the following organizations: MAG, MEFFCA, INTA, INAFOR and IPSA. The process addressed gender equity and included indigenous people as a high priority; The Board of Directors of the two indigenous peoples identified in the project area, i) in the Chorotega del Norte Indigenous people, which includes the Telpaneca municipality in the Madriz department and ii) in the Chorotega del Centro Indigenous people in the Sébaco municipality in the department of Matagalpa, participated in the consultation. Women represented at least a 50% of attendants in the three meetings. Given the length limit, the concept note only summarizes the main conclusions of the workshops of consultation.

144. The consultation also included representatives of the communities; technicians from the 14 municipalities; and staff from relevant ministries, in order to ensure alignment with national priorities and strategies. The knowledge acquired in the consultation workshops directly from the women residing in the project area allowed the development of an early dialogue that validated and complemented the conclusions obtained from the study "Characterization and socioeconomic and cultural analysis of rural and indigenous women and youth in 8 departments of the Dry corridor", carried by FAO in 2021[69]. This study analyzed the roles of rural women in the socio-economic context -productive of the Dry Corridor in Nicaragua, and, among other conclusions, affirmed that eliminating inequalities in access to goods and services is essential to decisively improve the socioeconomic conditions of women in rural areas. The project will contribute to closing the gender gap related to equitable access to socio-economic benefits and other services.

145. Gender consultations were held between December 4 and 9, 2021 through collective meetings organized in three working groups with 31 rural women: Women of the Chorotega del Norte Indigenous People, which includes the municipality of Telpaneca, department of Madriz; Women of the Chorotega del Centro Indigenous People, Sébaco municipality, Matagalpa department; Peasant women in the department of Estelí (see the results in Table 9). Recommendations from the consultations have allowed to validate the general approach of the project, although a number of specific aspects will need to be better assessed at full project proposal stage, specially those related to different options for methodologies, technologies and practices that can offer valuable options to alleviate the workload of women, according to the local context and the specific supply chain. In the case of indigenous peoples, consultations with the participation and consultation of the two Boards of Directors of indigenous communities will facilitate and frame the execution of the Free, Prior and Informed Consent process during the complete preparation of the project.

Table 9. Results of local consultation workshops

Workshops	Problems identified at the consultation workshops	Identification of adaptive measures
Consultation team: Miguel Davila Rugama (MARENA), Edwin Lira (Territorial Delegate MARENA Estelí), Pedro Vasquez (Territorial Delegate Madriz), Victor Martinez (Territorial Delegate MARENA-Matagalpa), Norman Gutierres (Territorial Delegate MARENA-Managua), Yanire Alvarez (Territorial Delegate León) and Denis Fuentes (FAO-Nicaragua)		
Workshop: Estelí - 19 de mayo de	• Lack of water	• Harvesting water.

[69] FAO (2021, unpublished). Characterization and socioeconomic and cultural analysis of rural and indigenous women and youth in 8 departments of the Dry corridor: challenges and opportunities for economic empowerment and social capital increase. Managua (Nicaragua).

Workshops	Problems identified at the consultation workshops	Identification of adaptive measures
2021 Institutions belonging to the Production, Consumption and Trade System (SPCC) / local actors in the municipalities of Ciudad Darío, Condega, La Trinidad, Palacagüina, San Isidro, San Juan de Limay, Sébaco, Somoto and Telpaneca.	• Deforestation • Lack of soil and water conservation works. • Climate variability index in low crop yield. • Lack of use of grain seeds adapted to the area. • High consumption of firewood for the use of the kitchens.	• Irrigation systems. • Forest management and natural regeneration. • Soil and water conservation works. • Use of seeds adapted for the area. • Construction of improved kitchens. • Protection of water sources. • Agroforestry and silvopastoral systems.
 Representatives of the Somoto and Telpaneca communities	  Representatives of the San Juan de Limay, Condega, El Jicaral, Teustepe and San Francisco Libre	
Workshop: Managua - 21 May 2021 Institutions belonging to the Production, Consumption and Commerce System (SPCC) / local actors in the municipalities of El Jicaral, San Lorenzo, Santa Rosa del Peñón, Teustepe and San Francisco Libre.	• Lack of water. • Deforestation. • Bad agricultural practices: burning and dependence on agrochemicals. • Inappropriate use of the soil. • Lack of market for production. • Pests affect crops • Low availability of pastures for livestock feeding.	• Forest management. • Construction of soil and water conservation works. • Watershed management and water harvesting. • Construction of improved kitchens • Improvement of pastures with pasture seeds suitable for the area. • Agroforestry and silvopastoral systems.
Workshop in Estelí- July 7, 2021 In 2 municipalities with indigenous communities in the North and Central Region of the country: i) in the Chorotega del Norte Indigenous people, which includes the Telpaneca municipality in the Madriz department and ii) in the Chorotega del Centro Indigenous people in the Sèbaco municipality in the department of Matagalpa	• Water demands of indigenous communities. • Low financial capacity of the main families in indigenous communities.	• Construction of soil and water conservation works. • Activities to improve the value addition of agricultural products by taking advantage of opportunities for high-value agriculture.
Carlos Navarrete, José Zavala, Miriam Perez, Chorotegas del Norte - Telpaneca; Alberto Salgado, Silvia Rayo, Angelica Armas / Chorotegas del Centro-Sébaco.	  Picture 1) Representatives of the Chorotegas del Centro – Sebaco; Picture 2) Representatives of the Chorotegas del Norte - Telpaneca	
Gender consultations were held between December 4 and 9, 2021 through three collective meetings organized in three working groups:	The results of the gender queries were as follows for each component of the Concept Note: Component 1. Transfer of capacities to peasant families, from 14 municipalities	

Workshops	Problems identified at the consultation workshops	Identification of adaptive measures
1.Women of the Chorotega del Norte Indigenous People, which includes the municipality of Telpaneca, department of Madriz: Miriam del Carmen Perez Polanco; Benicia Polanco Ramos; Yasmina del Carmen Guerrero; Luz Marina Cardenas Alfaro; Geyling Magdany Sanchez Melgara; Yobania del Rosario Melgara Contreras; Deyra Isabel Martinez Gomez; Inmaculada Concepcion Melgara Flores. 2. Women of the Chorotega del Centro Indigenous People, Sébaco municipality, Matagalpa department: Silvia Rayo Gonzalez; Angelica Maria Armas; Junilda Aguilar; Melania Moran; Isabel Gamez; Esperanza Gamez; Dona Meza Rivera; Mariel Bravo; Doris Cruz; Salvadora Rizo; Sayda Orozco; Anielka Ibarra. 3. Peasant women in the department of Estelí: Fundación Entre Mujeres (FEM) / Juana Villareyna, Cristian Merlo; Diana Martínez; Luz Marina Valle; Yoselinth Moreno; Kenya Baca; Juana Patricia Olivas; Ivania Maritza Irías; Isabel Zamora; Reyna Merlo; Belmalin Rivas.	in the dry corridor, for the implementation of adaptation measures and actions based on ecosystems. Recommendations: • Women in general consider that the project is favorable for supporting women in training aimed at entrepreneurship, because one of the most deeply rooted problems in women's lives is lack of income. One of the errors that they mentioned is that sometimes they are trained in some subject, but many times women do not have the conditions to apply it to their own lives. Other times the required accompaniment is not provided. • The rural women of Estelí, propose that training be promoted around the issues of crop diversification, incorporation of new techniques that help to strengthen the crops they already have. • It is suggested to strengthen the capacities of the beneficiary population of the project with the use of participatory methodologies on gender issues and Resilience to climate change, such as the conservation and use of resources, knowledge and processing of medicinal plants and Food Security. • Provide training in the use and management of biodigesters in order to reduce the use of firewood, and improve women's health. Women consider that these ovens have a cultural component, such as adaptation. This is seen as an alternative for saving firewood, since some of them do not obtain it directly from the forest, but buy it from local sellers. Some think that the stoves have reached some communities and do not seem to be effective, due to the lack of training for women. Component 2. Restoration of the forest landscape for the generation of ecosystem services. Recommendations: • Creation and implementation of edible forests, incorporating trees, plants and landscape. Edible forests, which serve to generate food services and ecosystem services. Forests are spaces or areas located on farms, but it is recommended to strengthen them. There are already certain species that can be managed, but new species are needed, adapted to the area and resilient to climate change. • It was emphasized that the population should be more trained in environmental issues, and above all start an educational process for the new generations, as a way to influence the change of mentality and transform the sustainable use of natural resources and love of nature. • Actions in favor of the reforestation of trees, training or educational talks were also proposed to raise awareness about the good management of natural resources. It was proposed to accompany these actions with the creation of forest nurseries, native trees in the area, and fruit trees, depending on the families reforesting in their homes and communities, thus promoting a socio-educational process that influences better knowledge and appropriation of ecosystem services. Component 3. Rehabilitation of agricultural livelihoods, at the farm level, using climate-smart agriculture practices. Recommendations: • In the case of indigenous women and as a result of the production reduction of their grains, they propose as an alternative the creation of family or home gardens, which they consider feasible to improve the family's diet, and to incorporate techniques that help the creation of organic fertilizers. • Diversified production and add value to certain products that already have a market value such as coffee and Jamaica. As well as how to promote the production and added value of Honey and Jamaica. • Support organizational strengthening. Almost all peasant and indigenous women think that a process of sensitization and organization is required to help women consolidate their knowledge. It was valued that associativity is essential	

Workshops	Problems identified at the consultation workshops	Identification of adaptive measures
	for women to start a business, especially to replicate experiences, join networks, and open markets for their ventures. • The Estelí women's group asserted that there are young people and women who already have some initiatives which could contribute to empowering other women, and promoting new opportunities to generate income through Exchanges at local fairs, organic markets, or other products that promote economic sustainability. • The Estelí women's group asserted that there are young people and women who already have some initiatives which could help to empower other women, and promote new opportunities to generate income through Exchanges in local fairs, organic markets, or other products that promote economic sustainability, • Implement efficient irrigation systems, to be able to produce reservoirs or cisterns to capture water, and thus improve production. One of the problems faced by the Chorotega women of Telpaneca is the need to install a motor to irrigate the crops in times of intense droughts, since the wells they have are not equipped to meet the needs of the plots.   	

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

146. The project is fully aligned with the outcomes framework of the Adaptation Fund, the needs of the country and the principles and guidelines set forth for the National System of Climate Change as established in the Presidential Decree 15-2021. Further, the project is aligned with the needs of smallholder farmers, its main target group, as it contributes directly to reducing their climate vulnerability and that of the agroecosystems they live in, while developing capacities for adaptation to climate change.

147. Project outcomes will generate a robust intervention framework made up of social, environmental and economic elements that can be implemented in other parts of the country. Likewise, because it is a project designed with a comprehensive approach. It requires no additional financing to achieve the expected impact.

148. The economic contraction suffered by Nicaragua over the past three years and the crisis caused by the COVID-19 pandemic have reduced the government’s capacity to work on climate-related issues and increased its dependency on external financial support. Water scarcity and associated harvest losses during the dry spell, and the challenges these represent for smallholder farmers living in the Dry Corridor are a government priority, but its human and financial resources to deal with the problem are limited.

149. The transformational aspect of this project comes from its integrated approach, where strategies proposed at landscape and farm level are complementary. The project addresses specific needs of most vulnerable farmers using the combination of traditional and innovative climate resilient techniques for agricultural production. Farm management contributes to the ecological and hydrological functioning of the watershed as a whole. This represents an innovative model for climate-resilient rural development in Nicaragua that combines integrated climate-smart solutions focused on livelihoods and agroecosystem-based adaptation.

Table 10. Cost of adaptation reasoning

Project outcomes / outputs	Baseline scenario (without AF project)	Additionality (with AF project)
Component 1. Transfer of capacities to smallholder farmers in 14 municipalities in the Dry Corridor, leading to the implementation of adaptive, ecosystem-based measures and actions 1.1 Capacity building program for SNPCC Institutions and smallholder farmers, developed and implemented with the participation of women and indigenous peoples.	Water scarcity and associated harvest losses during the dry spell, and the challenges these represent for smallholder farmers living in the Dry Corridor are a government priority, but its human and financial resources to deal with the problem are limited and climate change effects are increasing every year. In a no project scenario, there are interventions in several municipalities that include some elements to address climate change such as risk planning and restoration packages. Nevertheless, the scale of climate change effects makes necessary to increase the and coverage of these interventions and include elements that promote food security and resilience in the dry corridor rural areas.	The project will address capacity building needs on climate change adaptation at national, sub-national and local level, as well as by family farms and vulnerable groups (women and indigenous people). As a result of the program, the following capacities will be enhanced: • National government's technical and operational capacities for comprehensive territorial planning and extension services are re-established after economic and COVID-related crises, and new approaches are introduced to consider a climate-change adaptation perspective. • National capacities will be reinforced for the analysis of long-term climate-change impacts on agricultural productivity, ecosystem services and rural livelihoods. • Improved capacities at sub-national level in existing multi-stakeholder partnerships will allow them to guide and inform efforts to adapt to climate change through climate-smart agricultural practices and ecosystem-based actions. • Transfer of skills to 5,000 smallholders (at least 1,500 women) in 50 communities of 14 municipalities will remove knowledge gaps related to technologies and practices considered into ecosystem-based and climate-smart approaches to adaptation, which in turn will allow to change their vulnerability situation. • It is estimated that the project can enable the active participation of at least 1,500 women in the project's target area and reach significantly more women beneficiaries through outreach and capacity-building activities. Component 1 (as well as 3) has great potential to increase the benefit to women through the Creative Economy Model, actively and productively involving women and their representation directly in managerial roles and decision making. Also, in component 1 the project will include the promotion and consolidation of a culture of coexistence based on values and non-violence, fostering spaces for dialogue, awareness and training.

Project outcomes / outputs	Baseline scenario (without AF project)	Additionality (with AF project)
Component 2: Restoration of forest landscape so it generates ecosystem services. 2.1 The forest landscape is restored and begins to generate ecosystem services.	The municipalities in the Dry Corridor have highly degraded natural ecosystems, caused mainly by the extraction of fuelwood (used by 75% of households), slash-and-burn agricultural practices or accidental fires, and climate variations that lead to water scarcity or excessive rainfall. The increase in temperatures and droughts significantly reduce the availability of water resources for agricultural and livestock production, which in turn causes substantial economic losses to production, and to family farming in particular. Under a no-project scenario, only existing efforts within PAGRICC project allow for some advances (20% of forest coverage) in farm forest restoration of upper basin of Rio Viejo and Lago Apanas in the Dry Corridor. Traditional ecological practices by livelihoods and other efforts to catalyse restoration of ecosystem services and limitation of economic losses remain insufficient to revert the situation due to increasing climate change effects.	• Improved capacities for comprehensive territorial planning within component 1 will allow: i) the definition of protection areas for water recharge in relevant dry corridor basins such as Coco, river Grande of Matagalpa, San Juan and Pacific; ii) the creation of biological corridors between forest patches; and iii) the definition of areas to generate non-timber forest products, with a gender and ethnic approach. • As a result of the establishment of protection areas, the deterioration of forest landscapes in at least 20,000 ha will stop and the flow of ecosystem services (particularly water, but also the provision of food and timber, pollination, and soil degradation avoidance) that sustain the agricultural system in the 14 municipalities of intervention will be improved, for the benefit of 20,000 inhabitants of 50 communities. As a result of this, rural livelihoods and food security will be reinforced and stabilised.
Component 3: Rehabilitation of agricultural livelihoods at farm level, using climate-smart agriculture practices. 3.1 Crop, silvopastoral and agroforestry systems are established and/or improved by using selected seeds and practicing sustainable soil and water management practices. 3.2 Promotion of resilient livelihoods through diversification and access to markets for at least two crops using sustainable land management practices and with the participation of women and indigenous peoples.	Agricultural activities cover 58% of basic household needs, meaning families are vulnerable to the effects of climate change on agriculture. In a no-project scenario, a minority of smallholders in the targeted municipalities in the Dry Corridor have the incentives and capacities to adopt climate-smart agriculture practices and nature-based solutions. The diagnostics carried out by the Nicavida project in Dry Corridor municipalities point to the following as the main barriers that limit the adaptation of smallholder farmers to climate change: droughts that affect agricultural production; scarce access to water for human consumption, irrigation and livestock waterers; limited capacity to implement sustainable land management practices; an increase in soil degradation and erosion; and low	As a result of the adoption of technologies and capacities by agricultural livelihoods at the farm level: • 5,000 smallholder farmers (at least 1,500 women) will enhance their resilience to climate change, leading so to a sustainable improvement in food security and quality of life • Transferred and disseminated practices will consist of water harvesting solutions and climate smart practices, including ecosystem-based measures, that have been identified, systematized and adapted to the Dry Corridor context within projects such as PANGRICC, FUNICA, AGRIADAPTA. • Diversification of agricultural livelihoods will provide an opportunity for spreading the climate risk across different activities, therefore minimizing overall impacts and providing a safety net in the case of extreme drought. With more diverse production and activities, smallholder farmers will be given more options for coping strategies during prolonged droughts, thus increasing their resilience • The project will strengthen community-based organisations, such as cooperatives, micro-enterprises, and farmers associations to help linking small-scale rural entrepreneurs with private-

Project outcomes / outputs	Baseline scenario (without AF project)	Additionality (with AF project)
	levels of agricultural productivity; and levels of schooling and few training opportunities. FAO data (2019) indicate that moderate or severe food insecurity affects 47% of households in the Dry Corridor, a situation that might have grown worse due to the impact of the COVID-19 pandemic.	sector players along the value chains in the long run. • A cultural- differentiated approach will be considered to work with indigenous farmers, considering traditional crops for diversification and ancestral practices.
Component 4: Capture and dissemination of knowledge and lessons from the project, as well as participatory monitoring and follow-up to the activities implemented. 4.1. A knowledge and communications management strategy, with the participation of women and indigenous peoples, is developed and implemented. 4.2. A project follow-up, monitoring and evaluation system, with the participation of women and indigenous peoples, is developed and implemented.	In a no-project scenario, best practices developed by communities and other development initiatives in the country remain not capitalized and not disseminated to inform other local actors facing similar challenges.	• The project will address the need to build the capacity of national, sub-national and local institutions to systematize and scale up successful existing practices for climate change adaptation • With the AF intervention, communities and local smallholders will: i) have improved information capacities on technologies and practices for climate change adaptation; ii) have available clear guidelines that establish the procedures and requirements to access to project benefits; and iii) be empowered as rights-holders through processes of consultation and capacity building. • The project will enhance knowledge sharing and capacity at multiple levels on climate resilient strategies for agriculture by establishing information channels to enhance the effective flow of information, between institutions at regional and local levels and farmers. • Relevant efforts to disseminate information about how to address climate change at local and institutional level will be made in Output 4.1. Targeted audience at local level will consider, at least, local decision makers, local farmers, women, and indigenous people.

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

150. The project addresses the sustainability of its outcomes from three perspectives: environmental. social and economic.

151. Environmental sustainability will be reflected in the lasting impact of landscape restoration activities that will contribute to the generation of ecosystem services translated into an improvement in hydrological flows, soil fertility and in the production of goods such as fruits, wood and firewood. Restoring agricultural livelihoods using climate-smart agriculture and soil and water management practices will contribute to improving environmental quality at the farm and plot level and reducing GHG emissions. The project will work to ensure that the current practices that drive the degradation of the ecosystem do not continue by: i) raising awareness through consultations with all stakeholders, and the process of capacity building pursued by the project as well as public awareness raising campaigns; and ii) demonstrating the benefits of sustainable environmental management and how this can provide sustainable livelihoods and reduce vulnerability to climate change. The project seeks to overcome barriers that impede higher degrees of adoption and are usually linked to lack of assets, skills and information.

152. Social sustainability will be reflected in the social benefits and in terms of governance that the implementation of the project will bring to the participating farmers and actors. The active participation of

smallholder farmers comprising inter alia women, young people and other vulnerable groups in the project activities will contribute to concretizing actions such as reducing disagreements and conflicts around the use of common resources and improving livelihoods and social security. food security, with a positive social impact. Smallholder farmers and other participating actors will be trained to build and maintain the proposed interventions themselves and improve their livelihoods in a sustainable and resilient way.

153. In order to maintain the results of the project in the social sphere, it is ensured by involving the relevant actors from the beginning of its planning and throughout its implementation. These actors include government institutions involved in the project, in particular MARENA, MAG, MEFCCA, INTA, IPSA and INAFOR that are part of the National System of Production, Consumption and Commerce (SNPCC) and the 14 Mayors to be involved. This will guarantee the commitment of the Government of Nicaragua to continue working on adaptation to climate change beyond the life of the project and will contribute to the development of the National Plan for Adaptation to Climate Change with emphasis on issues related to the agricultural sector. The lessons and approaches implemented can be shared and implemented in other regions of the country. The benefits / institutional advances will be sustainable over time thanks to the policy, governmental and institutional support provided by the National Climate Change Management System, its articulation with the Production, Consumption and Trade System, and the different institutions that integrate both systems, such as MAG, MEFCCA, MARENA, INTA, IPSA, INAFOR and the municipalities.

154. Economic sustainability the investment made to increase the resilience of peasant farmers in the dry corridor and their agroecosystems will avoid (totally or partially) future costs related to climate change and its impacts, in addition to improving the livelihoods of participating farmers and the provision of ecosystem goods and services. The generation of income from the improvement of agricultural livelihoods and access to markets will translate into better quality for participating farmers. As they are nature-based solutions, which do not require expensive and sophisticated technologies, the cost of these activities is relatively low when compared to the benefits generated, generating a positive cost / benefit ratio and, therefore, more capable of make such investments in the future. After the end of the project the learning sites will continue working as innovation farms incorporated into the national system of farms for innovation, validation and transfer of agricultural technologies through an agreement that will be signed with the Nicaraguan Institute of Agricultural Technology (INTA).

155. To maintain the project's economic results, the project in its detailed design stage will identify the mechanisms to facilitate the effective and sustained participation of private sector actors (that is, the beneficiary farmers of component 3 and the actors of the private sector in the agricultural value chain, such as fertilizer and seed suppliers, wholesalers who buy their products from farmers) and public sector actors involved in the climate change agenda and in the implementation of the SNPCC's productive strategies. In addition, creating links with the private sector will open market niches to ensure the purchase of farmers 'production and access to national and local markets will increase farmers' income, thus ensuring the continued implementation of resilient practices and allow demonstrate that the benefits of adopting climate-resilient agriculture and resilient landscape management practices can stimulate economic activity in rural areas of Nicaragua's Dry Corridor even under conditions of climate change. All these actions represent a win-win for the beneficiary smallholder farmers, which contributes to ensuring the sustainability of the proposed results in the medium and long term.

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

156. The Project proposed herein is entirely aligned with the Adaptation Fund’s Environmental and Social Policy (ESP). It has been designed to generate positive economic, social and environmental outcomes. To achieve these, it will use contributions made available by local and national authorities and participating institutions. Further, the project intends to incorporate best practices from other projects, while simultaneously prioritising contributions made by women and marginalized, vulnerable groups that are included among the target population. The proposed adaptation and actions will be selected together with beneficiary farmers and participating institutions, thus ensuring they are culturally and locally appropriate.

157. The entire project at concept note level was assessed for environmental and social risks under the 15 principles set out in the AF ESP. During project full formulation stage, project will develop an specific instrument to assess risks and management measures following the social and environmental standards of the Adaptation fund and its 15 principles, and based on extensive FAO’s experience assessing environmental and social standards in projects under its management. The potential risks were preliminary identified together with the

needs for further assessment as presented in Table 11. An initial pre-assessment at concept note stage has classified the project in Category B (project with minimal risks), however this remains to be further clarified during the full ESA at the stage of full proposal development.

Table 11. Environmental and social checklist

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	Risk levels determined with preliminary assessments. A more through ESP risk assessment will be conducted in the full proposal	As detailed in section II.E the project will be in compliance with relevant Laws, Decrees and Acts. The processes of compliance will be further detailed in the full proposal.
Access and Equity		The project will not reduce or prevent communities in the targeted areas from accessing basic services. The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. Gender, age and indigenous quotas will be considered when selecting the participating farmers. Baseline information, trained staff and working with stakeholders will be key aspects for ensure equal access to project's benefits as well as advertising broadly through the mass media (radio, social media, town hall and village meetings, workshops etc.) for the implementation of an outreach / mobilisation strategy to ensure equal access and equity.
Marginalized and Vulnerable Groups		Marginalised and vulnerable groups, including migrant and indigenous populations, women, the elderly and the young will be consulted during the preparation of the full proposal, in order to ensure the project takes their needs into account and empowers vulnerable groups so they take decisions on specific adaptation actions. The project will respect property and land use rights, as well as customary law.
Human Rights		According to the Office of the High Commissioner on Human Rights (OHCHR) Nicaragua has not responded to requests for invitations for Special Procedures on a number of topics since 2009. These include on human rights; minority issues; discrimination against women and girls; sale of children; and indigenous people. The project consultations and the design of the full proposal will focus on the promotion of human rights during consultations, including equal women rights and the supporting of other vulnerable groups such as indigenous people. The project will aim to redress the disparities in standards of living and access to employment for inter alia women, children, youth and indigenous peoples.
Gender Equality and Women's Empowerment		Through targeted consultations project design and implementation will ensure that gender considerations are integrated in each activity. The project targeting strategy will have gender quotas and will promote women leadership and decision-making power for climate change adaptation and food security and nutrition. During project formulation women representatives will be consulted at national and local level and a full Initial Gender Assessment will be conducted that will enable the appropriate risk screening of the ESP 5 on Gender Equality and Women's Empowerment.
Core Labour Rights		Nicaragua has been a member of the ILO since 1957 and has ratified the 8 fundamental conventions: forced labour; freedom of association; right to organize and collective bargaining; equal renumeration; forced labour; discrimination (employment and occupation); minimum age; and child labour. The project will be in compliance with national, international and FAO standards in relation to core labour rights.
Indigenous Peoples		The project will engage in extensive consultations and participatory planning events with indigenous people namely the northern and central Chorotega ethnic groups that live in Telpaneca and Sébaco respectively. As a result of consultations during formulation (through a Free, Prior and Informed Consent –FPIC) and implementation the project will incorporate the priorities and needs of the indigenous population in all relevant activities. These consultative events will include a representative sample of the indigenous community, including women, elders and youth as territorial leaders.
Involuntary Resettlement		The project will not engage in involuntary resettlement. All consultations will be based on the Free, Prior and Informed Consent (FPIC) Principle. Should a situation of resettlement or economic displacement arise during the implementation of the project that was not anticipated during design, the implementers and FAO will ensure that a consultation and negotiation process is undertaken with the potentially affected people, according to the FPIC and do-no-harm principles. In case no agreement is reached, the project implementers will modify the specific interventions associated with the affected people, or halt them if changes are not possible. In the case where project implementers fail to undertake a consultation and negotiation process with the affected people, according to the FPIC and do-no-harm principles, the conditions and terms of the agreement could be considered to be breached and suspended, following FAO normal procedures for suspension.
Protection of Natural Habitats		The project is not expected to have any negative impact on critical natural habitats including those that are (a) legally protected; (b) officially proposed for protection; (c) recognised by

		authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities. Based on preliminary findings the project does not contain natural habitats that are legally protected; officially proposed for protection; recognized by authoritative sources for their high conservation value, including as critical habitat; or recognized as protected by local communities. A final assessment of project areas vis-à-vis protected habitats will be made during full proposal design and appropriate Environmental and Social Management Plan (ESMP) developed in accordance to AF ESP guidelines.
Conservation of Biological Diversity		The project will hold consultations with local actors, the indigenous communities and experts at the participating institutions, to identify the areas to be restored, using native tree species. Further, joint community management mechanisms may be devised to ensure the survival of the plants used in the restoration effort. Site selection will be aligned with the development and local soil use plan, in consultation with each municipal government, MARENA and other pertinent authorities.
Climate Change		The project will not have any negative impact on climate change as it does not promote any AF drivers of climate change (energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management), it will therefore not contribute to climate change as all project components and activities contribute to increasing local capacities to better adapt to climate change.
Pollution Prevention and Resource Efficiency		The proposed project activities will not pose any significant pollution risks at concept note no further assessments will be required. A further assessment will be conducted at full design stage.
Public Health		No risks are foreseen in terms of concerns to public health. Improved ecosystem services through forest landscape restoration, improved agricultural livelihoods through climate-resilient practices, and alternative income generating activities will enhance public health through improved incomes, and improved environment.
Physical and Cultural Heritage		Nicaragua accepted the convention concerning the Protection of the World Cultural and Natural Heritage in 1979. The project full design will conduct detailed consultations including with indigenous communities to inter alia also ensure that the national cultural heritage will not be adversely affected in the formulation and implementation of the project activities.
Lands and Soil Conservation		Through the ecosystem-based adaptation actions in component 2, this project will aim to restore forest landscapes and restore degraded soils through natural regeneration, planting of native nitrogen-fixing plants and reforestation. Through component 3 the project will promote climate-smart agricultural practices will improve fertility and soil conditions in general.

PART IV. ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

L. Record of endorsement on behalf of the government:

Fanny Sumaya Castillo Lara Minister of the Environment and Natural Resources Ministry of the Environment and Natural Resources	*Date:* *14 July 2021*

M. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Maher Salman Implementing Entity Coordinator	
Date: *December 29, 2021*	Tel. and email: 0039 0657054718 Maher.Salman@fao.org
Project Contact Person: Maher.Salman@fao.org	
Tel. And Email: 0039 0657054718, Maher.Salman@fao.org	

Appendix 1: NDA Endorsement Letter

Gobierno de Reconciliación y Unidad Nacional
El Pueblo, Presidente!

2021 ESPERANZAS VICTORIOSAS! TODO CON AMOR!

Minister's office
July 14th, 2021
Ref.: DM-FSCL/132.07.2021

To: **Mr. Mikko Ollikainen**
Manager of the Adaptation Fund Board Secretariat
Email: mollikainen@adaptation-fund.org

Subject: Endorsement for Climate Resilience and Livelihoods Project in the Dry Corridor of Nicaragua

In my capacity as Designated National Authority for the Adaptation Fund in Nicaragua, we confirm that the project concept note is in accordance with the government's priorities in implementing adaptation activities to reduce adverse impacts, and risks, of the by climate change in Nicaragua Dry Corridor. The project will contribute to implementation of Nicaragua of the Nationally Determined Contribution (NDC).

Accordingly, we are pleased to endorse the project concept note proposal with support from the Adaptation Fund. If approved, the project concept note for an amount of US$ 10,000,000, will be developed the full proposal and it will be implemented by the Food and Agriculture Organization of the United Nations (FAO) and executed by Ministry of Natural Resources and Environment (MARENA) in Nicaragua.

Sincerely,

Vamos Adelante CON AMOR, ESPERANZA Y FE!

Msc. Fanny Sumaya Castillo Lara
Minister
Ministry of the Environment and Natural Resources

MINISTERIO DEL AMBIENTE Y LOS RECURSOS NATURALES
MARENA

42/19, FUERZA DE UN PUEBLO QUE VENCE...!
2021, CAMINOS DE PAZ Y VICTORIAS...!
TODOS LOS TRIUNFOS SON DEL PUEBLO...!
VIVA DANIEL...! VIVA LA REVOLUCIÓN...!

FE, FAMILIA Y COMUNIDAD!

CRISTIANA, SOCIALISTA, SOLIDARIA!
MINISTERIO DEL AMBIENTE Y LOS RECURSOS NATURALES
Km.12½ Carretera Norte, frente a Corporación de Zonas Franc
Teléfono 22331112 - 22631994 - 22331916
www.marena.gob.ni

Appendix 2: Initial Gender Assessment

The population of Nicaragua is estimated at 6 million people and a population of women equivalent to 3.1 million, of these 41% live in the rural sector (INIDE 2021 estimates). Since 2007, the Government of Nicaragua has promoted a solid Model of Equity and Complementarity, through actions with social justice and respect for the human rights of Women and Men, which contribute to the good living of Nicaraguan families. The Government recognizes in Women their essential and strategic role in the human development of the country. For this reason, it encourages their leadership, empowerment, autonomy and entrepreneurial creativity, to achieve a dignified life, from a comprehensive and articulated approach of all State and Government institutions.

In this context, according to the 2020 Global Gender Gap Index, published by the World Economic Forum (WEF / WEF), Nicaragua is part of a select group of countries worldwide that have closed the gender gap by more than 80%, going from position 90 in 2007, to position 10 in 2016, to position 5 in 2019 and 2020.

Women exposed to climate change. The country is exposed to climate change, while women are directly threatened by climate hazards (floods, droughts). Women are exposed to climatic hazards in the sense that they are more confined at home, have less mobility and are less likely to migrate from areas prone to floods and droughts. This is particularly true in rural areas, where women have less access to information channels.

In a recent FAO study (2021) carried out in 15 municipalities of the Dry Corridor[70] in the country shows a series of gaps and socioeconomic and cultural inequalities that can intensify the impact of climate change on women, men, youth and indigenous peoples who inhabit these territories, their food and livelihoods. The study findings indicate that climate change, drought, rains and environmental deterioration are problems that impact the agricultural production of these municipalities. According to the women consulted, these effects are caused by excess rain (85%) or droughts (14%) in different parts of the country. 65% of the affected people caused loss of part of the crop, while 31% damaged the entire crop.

Having or not livelihoods access to land and natural resources, such as forests and water, can make a difference in these rural populations of the dry corridor. However, the aforementioned study showed that 56% of the women expressed that 34% said they had water sources, only 7% natural forest and 3% drinking water. As for young women, 38% have water sources, 9% natural forest and 3% drinkable water. And in the case of indigenous women, 40% have a water source and 11% have a natural forest.

The access gap to education and technical assistance is different for adult, youth or indigenous women in the dry corridor. It was found that 86% of the women surveyed have not received training / technical assistance. If we observe this data according to age and ethnicity, we find that this percentage increases to 89% in the case of young women and to 82% in the case of indigenous women.

In the country, another important advance by the government is the issue of property management, since between 2007-2020 427,434 property documents have been delivered, broken down into: 254,818 titles in the urban area and 172,616 titles in the rural area; benefiting 235,089 women and 192,345 men, most of them with limited resources. Despite these efforts, the possession of property titles does not imply that women have equal control and use of this property.

The impact of climate change can negatively affect the productive yield, the value and the quality of the land. Addressing these challenges in a context of climate change and economic crisis can help women, men and communities to ensure their livelihoods and food and nutrition security, particularly since the families consulted in the dry corridor are engaged in small-scale agriculture. Its main crop is corn with 67%, followed by beans with 49%.

Women in agriculture

Women contribute with greater participation in peak tasks such as seed bank preparation and harvesting at different times of the year. Time constraints based on gender are identified in the FAO study, since it indicates that women contribute daily to productive work - agricultural work, caring for animals and home garden - an average of 7.5 hours and to reproductive work - cooking, cleaning, washing, home shopping, caring for people, etc. -an average of 9

70 Town Dario, El Jicaral, El Viejo, Nagarote, Nindirí, Palacagüina, Pueblo Nuevo, San Francisco Libre, San Nicolás, Santa Rosa del Peñón, Somotillo, Teustepe, Totogalpa, Villanueva and Yalagüina.

hours.

Gender pay gaps have not yet been eliminated and men's wages in agriculture are significantly higher than women's wages (FAO, 2021). In the dry corridor, the highest percentage of women (64%) versus (24%) men, have an income of less than C $ 2,000 per month, an amount (equivalent to ($ 57.22). Productive activities that are diversified and consider climate change adaptation measures that women can implement from the farm and the community can contribute to closing this gap.

Lack of access to technology is a major obstacle for women to be more productive. However, according to the study carried out by FAO, it tells us that more than 70% of women have access to a cell phone, but only 27% connect by cell phone or computer for the work they do in agriculture, which indicates that can advance in closing the access gap to “the digitization of agriculture”.

The project aims directly at the empowerment of women through Component 1, as well as the managerial transfer of results developed in Component 3, they have great potential to increase the conscious role of women in the Creative Economy Model, actively and productively involving women and their representation directly in managerial and decision-making roles. Also in component 1 the project will include the promotion and consolidation of a culture of coexistence based on values and non-violence, fostering spaces for dialogue, awareness and training.

Another important gender gap that will be addressed is the interruption of access to drinking water through component 2. Since the fall of the water table represents a serious risk for women, responsible for domestic tasks. In recent years, the effects of droughts led farmers to use groundwater, thus taking advantage of the only resource for household demands. The trend reached the critical stage in which people have practically no water to drink in periods when the phenomenon of the child intensifies. Women who do not have alternative water supply options are often unpaid and without water for essential needs.

Empowerment of women in decision-making: Given that the project is operated at the local level and foresees the promotion of ecosystem-based adaptation at the community level, the project will incorporate concrete actions to improve gender equality. There is significant potential from the current project to increase women's productivity and income through Component 2 and 3. Since women work at home, activities can directly address the untapped potential of adaptation to change activities. climate. The project can enable the active participation of 30% of women in the project's target area and reach significantly more women beneficiaries through outreach and capacity-building activities.

Final considerations

Both the study by FAO and the gender consultations held in the formulation of this concept note demonstrate the need for greater social, economic and productive investment to promote the economic and social empowerment of women and youth, including addressing the gaps identified at the level of the territories, youth and women of indigenous peoples

Thus, it will be necessary in the full proposal design to think and plan investments from integral models, as it is not possible to generate employment options, improve productivity or empower economically to adult and young women without considering challenges around violence gender, sexuality, or changes in the sexual division of labor gender.

It is needed:

- To promote processes that allow women and youth to improve their capacities to exercise their leadership and ability to raise their voices and become agents of change, through their insertion in an economic activity.
- To improve capacities for organization, teamwork, planning and development of agendas with emphasis on economic insertion.
- To promote partnerships to improve capacities for employability of young people, access to decent youth employment and the creation or strengthening of productive enterprises (agricultural and non-agricultural).
- To implement entrepreneurial experiences that take up lessons learned from others actors and experiences.

Appendix 3: Initial Assessment of Indigenous Peoples

In the preparation of the Concept Note, the existence of indigenous peoples has been specifically identified in two municipalities where the project will have direct influence: i) in the Chorotega del Norte indigenous people, which includes the municipality of Telpaneca in the department of Madriz and ii) in the Chorotega del Centro Indigenous people in the municipality of Sèbaco in the department of Matagalpa.

The indigenous people of Li Telpaneca is located in the department of Madriz and its foundation dates from the year 1626, it has an estimated population of 12,000 people, distributed in 39 rural communities and five urban areas. 80% of the population lives in rural areas and 20% is urban. The predominance of men over women (52% and 48% respectively). Land tenure in Telpaneca is linked to ethnic and cultural belonging. The PGR's Diagnosis found that 59% of those interviewed claimed to have access to a plot of land and 74% of them affirmed that it is land belonging to the indigenous community.

Agriculture is directed towards the sowing of basic grains: corn, beans, sorghum, musaceae, coffee growing on a regular scale in mountainous areas such as the El Malacate hills with 1,490 meters high, Santo Domingo with 1,348 and El Picacho with 1,343 (UCATSE / FAO 2021). The PGR's Diagnosis confirmed that in Telpaneca the traditional production scheme encompasses the productive cycle of basic grains in the first, second and “wintaka” or apante sowing. In terms of water use, irrigation or ditches are used in nearby valleys, such as those located in the Coco River. In relation to migration, 23% of the people said they had a family member outside the country, mostly in Costa Rica and El Salvador. Only 8% received remittances.

In organizational terms there is the Council of Elders made up of an elder from each community, it is the highest decision-making body and guardian of historical memory The Board of Directors is the administrative and executive body subject to popular election. Community Mediators and Indigenous Communicators (UCATSE / FAO 2021).

The indigenous people of Sébaco

The cacaopera are found in the indigenous communities of Matagalpa, Sébaco and Muy Muy, department of Matagalpa. The indigenous people of Sébaco, which in the Nahualt language is named Cihua Coatl (Serpent Woman). Its territory is crossed by the Pan-American highway, which extends through the entire municipality of Sébaco and most of the municipalities of San Isidro and Ciudad Darío.

At present, the municipality is characterized economically by activities related to commerce and agriculture: mainly onions, rice, sorghum, corn, vegetables, chia and linseed are grown for export. In addition to the municipal government, there is the indigenous community government, made up of community members through the Indigenous Assembly, the Council of Elders, the Administrative Board of Directors and the Electoral Directory.

Legal and Institutional Framework. The Nicaraguan people recognize themselves, through its Political Constitution, as a multi-ethnic people and an integral part of the Central American nation. Similarly, it is indicated that Spanish is the official language of the State, but it is also recognized that the languages of the Communities of the Atlantic Coast of Nicaragua will also have official use in the cases established by law. In September 1987, the National Assembly of the Republic of Nicaragua promulgated Law No. 28 “Statute of Autonomy of the Regions of the Atlantic Coast of Nicaragua”. In May 2010, the National Assembly of the Republic of Nicaragua approved Decree 5934 "Decree of Approval of the Convention on Indigenous and Tribal Peoples, 1989". The State of Nicaragua, on September 17, 2014,

The Council of Indigenous Peoples of the Pacific, Central and North of Nicaragua, is an organization that emerged from within and from the reflection of 22 indigenous peoples who, on a negotiating route with the Government to achieve full recognition of their Autonomy, They decided to strengthen their institutional framework and in this way created in 2008 the Council of Indigenous Peoples of the Pacific, Central and North of Nicaragua. In the detailed formulation stage of the project, an Indigenous Peoples Framework will be developed during detailed project design.