Climate change resilient production landscapes and socio-economic networks advanced in Guatemala

Programme completion summary

19 June 2019

1. Basic information

Database Number: GTM/MIE/Rural/2010/1
Period: From July/02/2015 to December/31/2018
MIE: UNDP
EE amount:
Total Project Cost: 5,000,000
Project Cycle Management Fee Charged by the Implementing Entity (8.5%): 425,000
Amount of Financing Requested: 5,425,000

2. Key milestones

AFB Approval Date:	September/14/2013
IE-AFB Agreement Signature Date:	December/19/2014
Start of Project/Programme:	July/02/2015
Mid-term Review Date (if planned):	April/2018
Terminal Evaluation Date:	October/2018

3. Project overview and description

The project aims to increase the resilience of production landscapes and socio-economic systems to climate change in 19 sub watersheds in the Nahualate River watershed, with jurisdiction in 12 municipalities in the departments of Sololá and Suchitepéquez that are threatened by the impacts of climate change and climatic variability; in particular this includes hydro meteorological events that are increasing in frequency and intensity. Towards the above objective, the project implements of set of interrelated actions ranging from the enhancement of institutional capabilities to support for building more resilient local economies and increasing the adaptive capacity of communities through adaptation measures in water resources management, as well as agricultural, agro-silvopastoral and land use practices.

Geographical locations: Upper and middle watershed of the Nahualate River, in 19 sub watersheds selected based on their vulnerability: Alto Nahualate, Ugualxucube, Tzojomá, Paximbal, Igualcox, Masá, Ixtacapa, Yatzá, Panán, Mixpiyá, Nicá, Mocá, Paquiacamiyá, Tarro, Bravo, San Francisco, Chunajá, Siguacán, and Coralito. The 19 sub watersheds are located within the jurisdiction of 12 municipalities: Nahualá, Santa Catarina Ixtahuacán, Santa Lucía Utatlán, Santa María Visitación, Santa Clara La Laguna, San Juan La Laguna, and Santiago Atitlán, Department of Sololá; Santo Tomás La Unión, San Pablo Jocopilas, San Antonio Suchitepéquez, Chicacao, and Santa Bárbara, Department of Suchitepéquez.

4. Results and key outcomes

Type of Indicator	Indicator	Baseline	Progress since inception	Target for Project End
Project Objective: to increase climate resilience in production landscapes and socio-economic systems in target municipalities, threatened by climate change and climatic variability impacts, in particular hydrometeorological events that are increasing in frequency and intensity	O.1. Number organizations (including cooperatives, community producers and watershed management committees) that incorporate climate change adaptation measures for reducing vulnerability.	In project target area there are community organizations only on an ad hoc and informal basis, formed in order to address specific activities (e.g. receive government assistance, maintenance work or community reforestation), but not continuously or systematically, and lacking legal foundation. Other examples are producer groups, including for honey, organic coffee and cocoa, banana (more common in Suchitepequez). Their knowledge and understanding of climate risks and adaptation measures are low. In the inception phase of the project a detailed analysis of the organizational level of communities and non-profit organizations was performed. This analysis identified seven non-governmental organizations (NGOs) and 3 cooperatives, that are called local organizations. These 10 organizations have legal registration, and have administrative capacities conditions to receive and manage small grants. These NGOs therefore serve to channel and manage small grants funds to a number of community-based producer organizations, which have no capacity for administrative and financial management and do not have legal registration. In addition, the project will support the establishment of legal watershed management committees (which currently do not exist), and also help producer and community	One hundred and twenty nine (129) organizations (cooperatives, community producers and watershed management boards) have incorporated climate change adaptation measures to reduce their vulnerability. 21 organizations in the current period and 108 organizations previously reported. This result has been achieved through two strategies: (i) implementation of community projects; and (ii) strengthening the Ministry of Agriculture, Livestock and Food (MAGA) to support community groups organized in Rural Development Learning Centers (CADER), using demonstration plots to teach conservation practices. Below is a set of videos of small grant projects and press releases: https://goo.gl/ynP2eK https://goo.gl/kxbpzy https://goo.gl/urCd9b https://goo.gl/jd4Rva https://goo.gl/CbVnFD https://goo.gl/O5Ceyj	At project end, at least 50 organizations (including cooperatives, community producers and watershed management committees) have incorporated climate change adaptation measures for reducing vulnerability.

		organizations to be formalized and registered as part of the sustainability measures. In the project area there is a network of agricultural extension called CADER (Learning Centers for Rural Development),a Rural Extension System of the Ministry of Agriculture, Livestock and Food (MAGA). The CADER is a group of farmer families who practice non-formal teaching and learning processes, using collaborative and learning by doing approach. The CADER is directed voluntarily by a person of the community, which is known as a promoter, the only requirement is to have the courage to work for their benefit and that of the other members. The CADER system is supported by the Project on training issues within the framework of agreements with the Ministry of Agriculture, Livestock and Food (MAGA).		

	O.2. Number of funding mechanisms developed to support national processes of adaptation (payments for environmental services, certifications, budget planning at local and central government level) established to support climate change adaptation processes.	Government authorities have been considering means of funding for climate change adaptation. Although climate change is being identified as a priority, specific funding mechanisms are non existent or insufficient to address adaptation needs to current and projected climate change.	(i) Together with the Friends of the Ixtacapa River Association (ADRI), a local partner, the creation of the Agro-environmental Management Fund (FOGAA) was promoted for the sub-basin of the Ixtacapa River. The purpose of the Fund is to promote and facilitate the collection and financial administration, under a non-profit approach, that allows sustainable investment in adaptation and mitigation measures to climate change in the sub-basin of the Ixtacapa River, in accordance with its strategic lines. The Fund is legally supported by the mechanism of the trust, a figure that provides flexibility to diversify its methods of generating and raising funds of legal origin, efficiency, transparency, clarity in governance and facilitation for the monitoring and evaluation of investment projects. The trust as a legal mechanism requires the establishment of a governance system, which, in the case of FOGAA, was established through a decision-making unit (Administrative Board), an operating unit (Project Management Unit) and an advisory unit. (Committee). The tool called "Manual for the Operation of the Agro-Environmental Management Fund (FOGAA), Sub-basin of the Ixtacapa River", develops the governance structure of the Fund. https://goo.gl/dq1Ftp (ii) The municipality of San Clara La Laguna, Department of Sololá, authorized the implementation of the Water and Forest Services Compensation Mechanism, which was jointly promoted with the Friends of the Ixtacapa River Association (ADRI) and the National Forestry Institute (INAB). The Mechanism is a municipal, technical and legal instrument, with its own organizational structure, which contributes to the sustainable use of environmental services (water and forest) in the water recharge zones, through "compulsory and voluntary arrangements" between the population and municipal authorities, within the framework of local governance and public environmental policy. The Mechanism is legally supported by Article 19 of the PROBOSQUE Law (Decree 2-2015 of the Congress of the Republic of Guatemala) and two (2) municipal regulations. The Mechanism has as its scope 1,009 hectares of municipal forests of San Clara La Laguna (including 49 water sources). The Fund for the Conservation of Forest and Water will be fed by the annual economic contribution of families and businesses benefiting from water services and family consumption of wood and firewood, regulated by the respective municipal regulations; and other income that the City Council may issue in the future, or contributions from individuals or legal entities, national or foreign, that wish to donate or contribute in a lawful manner to the Fund. All proceeds will be channeled through the Municipal Treasury for the specific item of the municipal budget, which will be supported by the Fund, leaving evidence by means of municipal revenue receipts. For its implementation, the Manual of Operation of the Compensation	At project end, the project will have supported the implementation of at least one financial mechanism (payment for environmental services, certifications, budget planning central and local government) with a level of support agreed by the inter-institutional support committee.

			Mechanism for Water and Forest Services that describes the governance of the Mechanism was prepared.	
			https://goo.gl/8vcYCj	
			According PPRs previously, the investigation of the financial mechanisms implemented in Guatemala, both for payments for environmental services, certifications, central and local government budget planning, technical and legal designs, lessons learned during implementation and the role of the actors involved, has served as a reference to develop the proposals of the two mechanisms.	
	O.3. Number of Ha area under climate-adaptive agricultural practices	0 Ha currently. In the project area there is approx. 8200 Ha area under annual cultivars and in an overused status. Current agricultural production is at subsistence level and practiced in small lots with intensive cultivation cycles of 2-3 crops per year. In these areas there are some initial and ad hoc measures pointing towards soil and water conservation (some terrace forms, contour planting, intends of irrigation), but without using effective and integrated adaptation techniques, and lacking systematic and landscape level applications.	968.34 agricultural hectares with good practices of adaptation to climate change. 218.52 hectares reported in the current period and 749.82 hectares reported in the previous periods.	At project end, at least 500 Ha area under climate-adaptive agricultural practices.
			https://goo.gl/ynP2eK	
			https://goo.gl/kxbpzy	
			https://goo.gl/urCd9b	

Outcome 1: Local and national capacities and tools enable decision makers and communities to reduce vulnerabilities and strengthen adaptive responses.	1.1. Availability of downscaled climate scenarios and early warning information	Currently, national capacities to manage and analyze information from weather events and risks are reduced and limited to application of regional models, and currently there is no downscaled climate projection, neither early warning information available for users in the target region. Only INSIVUMEH has trained experts on downscaling and will be supporting the project in preparing downscaled projections and in training process.	(i) During this period three (3) new meteorological stations were installed and put into operation in the upper and middle part of the Nahualate River basin, strengthening the national meteorological network. The location of the stations was established through the field report carried out by the National Institute of Seismology, Volcanology and Hydrology (INSIVUMEH), which considered parameters of territoriality. , representativeness of livelihoods, climatic zones and active meteorological stations. According to previous PPR, the capacity of the meteorological network and the National Institute of Seismology, Volcanology and Hydrology (INSIVUMEH) was strengthened as follows: (a) A new database was prepared in accordance with the World Meteorological Organization standards (OMM); (b) The purchase of a high capacity data storage server; (c) Historical information was entered from 29 meteorological stations of local agencies (Institute for Climate Change and National Coffee Association), with which INSIVUMEH now has a mutual cooperation agreement to maintain the meteorological information of these twenty-nine (29) stations updated. These meteorological stations are located in the southern region of the country, covering the lower and middle part of the Nahualate river basin (target area of the Project). (ii) According to previous PPRs, the inter-institutional teams (INSIVUMEH, Ministry of Agriculture, Livestock and Food (MAGA), Ministry of Environment and Natural Resources (MARN) and the University of San Carlos of Guatemala) have strengthened their capacities in: (a) Development of short-term forecasts, using new methodologies and technologies. (b) Institutional strengthening of decision makers in the generation of climate change scenarios with the WRF software. These trainings are additional to the one informed in the previous PPR, on bioclimatology, geobotany and biological indicators. With these trainings, the technical staff is available to create reduced climate projections and promote their use in national, departmental and municipal planning reviews. https://goo.gl/m8gJUS https://goo.gl/amfDZx https://goo.gl/sPUlM0	At the end of the second year, the national meteorological network will be strengthened with nine new stations, installed and operating within the river basin Nahualate. At the end of the second year, an interagency team (INSIVUMEH, MARN, MAGA, among others) will be able to create downscaled climate projections and promote its use in the reviews of national, departmental and municipal planning. At the end of the third year, early warning information generated will be available and disseminated to users in the region (including through quarterly newsletters).

			(iii) According to previous PPRs, the website for the exchange of climate information to be administered by the National Institute of Seismology, Volcanology, Meteorology and Vulcanology (INSIVUMEH) was prepared, where the general public can download climate information on each meteorology station in the country and information on climate scenarios by municipality prepared by INSIVUMEH, MAGA and MARN. On the website, INSIVUMEH publishes weather forecasts and early warning; it also issues bi-monthly bulletins that contain updated climate information; The Project has also strengthened the design of the newsletter, the content and the scope of the users of the information. The current period gave continuity to the implementation of the indicator.	
	1.2. Number of strategies and development plans adopted and implemented, incorporating information on climate change risks and adaptation measures.	Guatemala has established a Territorial Planning System (SINPET) that allows the integration of sectoral policies and strengthens development processes. In this context, the country has developed plans, which have not yet incorporated risks of climate change and adaptation measures.	(i) According to previous PPR, twelve (12) Institutional Strategic Plans that incorporate adaptation measures to climate change within the municipal government's planning for the 2016-2020 period were approved. https://goo.gl/XzdJ58 https://goo.gl/Uri2Qm https://goo.gl/JMsVv3 (ii) According to previous PPR, twelve (12) Municipal Development Plans were prepared and approved by the municipal authorities of the twelve municipalities. These plans incorporate adaptation measures to climate change within the guidelines and strategies for the administration of the territory for the period 2017-2032. https://goo.gl/Num1Xv https://goo.gl/bHEqPS (iii) During this period, the strategic planning of the upper and middle part of the Nahualate River basin for the period 2018-2050 was prepared with the support of the Rural Development Commission and the Inter-institutional Coordination Committee. According previous PPRs, the study on the biophysical characterization of the Nahualate river basin and 19 sub-basins was completed. This study, together with the Municipal Development Plans, provides information on physical details, climatology, climate scenarios, and socioeconomic aspects, important for the strategic planning of the basin for the period 2018-2050.	For the third year, the management strategy for the Nahualate Watershed, 12 municipal development plans and 12 municipal institutional strategic plans mainstream climate change risks and opportunities, and incorporate adaptation measures.

	1.3. Number and type of financing mechanisms identified and assessed by MARN and relevant stakeholders.	There are no public-private partnerships to support adaptation processes, or mechanisms for national or local funding.	According PPRs previous, the financial mechanisms implemented in Guatemala for payments for environmental services, certifications, central and local government budget planning were identified and evaluated, with the purpose of knowing technical and legal designs, lessons learned during the implementation and the role of the actors involved. With this, the goal of the indicator was completed by the end of the project. https://goo.gl/bmS3Go	At project's second year, financial mechanisms existing in Guatemala (payments for environmental services, certifications, central and local government budget planning) will be identified and assessed for suitability for target region, including mapping and evaluation of institutional capacities.
Outcome 2: Production landscape resilience increased through application of traditional and ancestral practices and other production activities, as well as targeted investments.	2.1. Number of ha of natural forest subject to conservation through the protected area or forest incentives mechanisms	In the project area 5,885 hectares of forest areas have been declared as protected areas under the management of municipalities. However, capacities of local municipalities and communities is very limited for effective management of these areas to prevent deforestation, and especially considering capacities of fire prevention and control, risk of it being increasing with changing climatic conditions. Currently there are no areas under conservation management using forestry incentives. Nevertheless, within the Nahualate River watershed, there are areas with natural forests where protected area status can be potentially expanded and conservation management enhanced under the existing forestry incentives programs in Guatemala (PINPEP - Forestry Incentive Programme for Small-holders of Forestry and Agricultural Use, administered by the National Forest Institute). There is a need also to support the conservation of areas that are strategic for water recharge and protection of water sources that supply urban populations.	(i) According PPRs previous, effectiveness of protection and conservation management was improved in the 5,886 hectares of existing protected areas, with integrated actions for fire management, through the construction of 57.5 linear kilometers of breach firewalls built in Municipal Regional Park (protected areas) and natural forests. Four brigades of forest firefighters were formed (40 community persons trained as forest firefighters), who operate with the required equipment, and who have been incorporated into the National System for the Prevention and Control of Forest Fires (SIPECIF). https://goo.gl/HmhX6H (ii) 205.5 hectares of natural forest were conserved through the figure of forest incentive, approved by the National Institute of Forests (INAB). During this period, 146.95 hectares were reported; 58.55 hectares reported in previous PPR. According to previous PPRs , 312.90 hectares of natural forest were transferred to the National Council of Protected Areas (CONAP), to be declared as four (4) protected areas, category of Municipal Regional Park. During the current period, the administrative management was followed up, but even so, the approval of CONAP remained pending at the closing of the Project.	By the end of the project effectiveness of protection and conservation management is enhanced in the existing 5,885 hectares of protected areas. By the end of the project at least 200 hectares of additional natural forest areas are subject to conservation through protected area or forestry incentive mechanism.

	2.2 Number of ancestral and traditional practices recovered for increased resilience of productions landscapes adopted by the communities in the target area of the project	In the project area recovery of ancestral practices are only focused on the use of biological diversity (CONAP), however not related to production practices.	According PPRs previous, 10 traditional or ancestral practices related to increase resilience of productive landscapes in the Nahualate River basin, were promoted through the cultivation of 80.37 hectares, benefiting 250 households and approximately 1,125 people. https://goo.gl/BfiiRP https://goo.gl/HmhX6H	By the end of the Project, at least two traditional or ancestral practices in target area and related to increasing the production landscapes resilience are recovered and implemented

	2.3 Number and type of adaptation measures implemented by CBOs and NGOs (based on catalogue established by the project).	Communities are applying some initial and ad hoc measures contributing towards adaptation, mainly related to soil and water conservation (some terrace forms, contour planting, intends of irrigation), but without using effective and integrated adaptation techniques, and lacking systematic and landscape level applications.	Community organizations implemented 18 different adaptation measures (including engineering, forestry and agriculture measures), using the small grants project mechanism. The adaptation measures were oriented towards production practices, seeking with the investment of the Project the resilience of the communities to the climate. The accumulated results of previous reports of PPRs and the current period are the following: 1. 6,093.05 hectares under forest management and conservation. 2. 340,000 plants produced in twelve forest nurseries. 3. 968.34 hectares with soil conservation practices, including demonstration plots and area with irrigation systems. 4. 96 water births protected with reforestation and forest protection. 5. 250.21 hectares subject to agroforestry system management. 6. 3,374 domestic animals delivered to form livestock systems. 7. 5,705 hectares with integral fire management actions; 57.5 linear kilometers of firebreaks built in the Municipal Regional Park (protected areas) and natural forests. 8. 170.13 hectares with reforestation actions. 9. 107.45 hectares under organic agriculture; 14 buildings, with minimum infrastructure for the production of 166,273 kilograms of organic fertilizer. 10. 10 traditional or ancestral practices recovered, 83.37 hectares cultivated. 250 households benefited. 11. 1,484 hives in operation, as part of the beekeeping system. 12. 48.16 hectares of diversification of agricultural landscapes. 13. 2,024 storage structures (silos) delivered. 14. 59.05 kilometers of reforestation of river banks. 15. 90 rainwater storage systems, delivered or constructed. 16. 17 community seed banks implemented. 17. 165 gray water catchment systems. 18. 328 family gardens, specific work with women. https://goo.gl/ynP2eK https://goo.gl/kxbpzy https://goo.gl/urCd9b	By the end of the project, at least 15 different types of adaptation measures (including land use, water management, forestry and agriculture measures) are implemented through community-based adaptation

Outcome 3: Socio-economic adaptive capacity of communities improved.	3.1. Percentage of targeted households with a more secure access to income for livelihoods (disaggregated by gender).	Currently agriculture production in the communities and targeted families is of subsistence, there is a very low level of marketing of products using local markets or through direct sale to intermediaries who approach communities seasonally, but this is not practiced systematically nor in a organized way, and there are no differentiated strategies for productive chains and product marketing. A household survey on income levels is planned to take place in October 2016, which will define the baseline.	During the period, income and expenditure per household were evaluated at the end of the first production cycle of the productive chains promoted. An average monthly income per household of USD 231.35 (USD 2,776.17 per year) was determined; the discharge did not have significant variation with respect to the baseline. The study was conducted with a confidence level of 95% and established a beneficiary population of 2491 households. Statistically, it can be affirmed that the intervention of the Project promoted the improvement in monthly income per household in the upper and middle zone of the Nahualate River basin by 17.26%, increasing the monthly income per household in USD 34.05. Although the measurement was early to the intervention of the Project, the sustainability of each productive chain has been reflected in the business plan for the period 2018-2022. For its participatory elaboration, it was considered as strengths to have infrastructure for the post-harvest handling of the production and to have a small revolving fund for the purchase of the production of the small producers of each network. https://goo.gl/vb72Kf According previous PPRs, the baseline study of income and economic expenses per household of the direct beneficiaries of the project determined that: (i) The average monthly income per household was USD 201.33 (USD 2,415.96 per year); (ii) The average monthly income per household was USD 194.14 (USD 2,329.72 per year). The baseline study was conducted with a confidence level of 95%. https://goo.gl/PKeDyV	At project end, at least 50% of households from members of community organizations involved (approximately 1,500 Total households) have more secure income access for their livelihoods.

	3.2. Number and type of social networks for production in the target area (indicating gender composition).	None	Together with local organizations, 8 networks of producers associated with production chains were formed and put into operation: 1 network in the cocoa chain; 2 networks in the honey chain; 1 network in the maxán leaf chain; and 4 networks in the pea chain. Each network has an organizational structure for commercial purposes, administrative tools (manuals, regulations) and basic infrastructure for the storage and processing of agricultural products. For the first year of operation of the networks, production cycle 2017-2018, a total gross income equivalent to USD 1,451,609.44 was estimated, the star product being the pea with an established international market.	By the end of the Project, at least two social networks (associations/production cooperatives/marketing associations) formed or strengthened and operating.
	3.3. Number of feasibility studies of microfinance schemes completed; number of options identified, described and supported with project technical assistance.	Weak organization and lack of market information hinders the marketing of traditional products and reduces the potential for innovation in production processes and alternative marketing.	The study "Proposal of microfinance mechanisms that promote rural productive activities that implement measures of adaptation to climate change", carried out by the Project, reveals that microfinance in Guatemala has a market share through cooperatives (55.6%), NGOs (30.6%) and banks (13.8%). In addition, it estimates that the attention and interest to the agricultural sector is relatively low because it reaches on average 10% of the portfolio of all entities in the market. The sector least attended by the system is the small agricultural producers, arguing that the risk that capital runs due to the variability of the prices of primary producers, climatic variability, agricultural pests and diseases and the fact that the plots of small farmers are destined only for survival crops. Respond to the problem by promoting the implementation of two microfinance mechanisms to support processes of adaptation to climate change, together with the Cooperativa Ixb'alam and Asociación AGEMA, local partners of the Project. A Credit Policy and Credit Regulations for each mechanism were prepared to provide the guidelines, conditions and general processes for all financing operations. Each fund is constituted as the instrument that seeks to contribute to the provision of capital at a low interest rate for associates that need to finance agricultural activities or develop agricultural, artisan and commercial ventures. One condition is the development of good practices that are friendly to the environment or adaptive to the climate. Both partner organizations, guide their work to the support of women's groups in the upper part of the Nahualate River basin, municipalities of Santa Catarina Ixtahuacán and Nahualá. They have 392 members. At the closing of the Project, 29 microloans were granted to the associates.	By the end of the project, access to micro-finance relevant to develop climate change adaptation initiatives by farmers associations from Sololá and Suchitepéquez will be identified and prioritized.

			Currently, it is necessary to increase the seed capital of each fund, whose initial resources have been contributed by local organizations.	
			According previous PPRs, one study allowed the identification of four microfinance mechanisms in Guatemala, which, when set up, can potentially support the implementation of measures to adapt to climate change; These microfinance mechanisms were socialized in a forum with experts and the public interested in the Project area. In addition, through another study, financial mechanisms were established to cover risks related to adaptation to climate change (agricultural sector), evaluating the availability of these mechanisms in Guatemala and their relationship with the Climate Change Law. The Ministry of Agriculture, Livestock and Food (MAGA) and the Ministry of Environment and Natural Resources (MARN), held a space for debate, socialization and dissemination of these mechanisms.	
			https://goo.gl/brfpfQ	
			https://goo.gl/871YRq	
			https://goo.gl/XDDxK5	
			https://goo.gl/ORV9pk	
	4.1. Inter- institutional information system of climate change designed and operating in a coordinated manner at multiple levels, running.	Currently there are no information centers working in coordination, and no initiatives linking various levels of climate change problems. Information on climate change is not available for decision-making at all levels.	According PPRs previous, the exchange of climate information continued through the website of the National Institute of Seismology, Volcanology, Meteorology and Vulcanology (INSIVUMEH), where the general public can download climatic information from each country's meteorological station, information on climate scenarios, weather forecasts, early warning and bulletins, information prepared in coordination by INSIVUMEH, MAGA and MARN.	From the first year of the project, an information and inter-institutional communication system will be developed for adaptation to climate change which will operate in a coordinated manner.
			http://www.insivumeh.gob.gt/	

Outcome 4: Effective knowledge management results in informed decision-making at all levels through an integrated information system.	4.2. Percentage of targeted population affirming awareness of predicted adverse impacts of climate change and appropriate response. (disaggregated by gender)	At the moment there is no awareness programs focused on climate change issues. Knowledge of the population on climate change is very low.	(i) During the current period, a second phase of the radio campaign was carried out from February to June 2018, in response to the request of the Interinstitutional Support Committee. The campaign was broadcast on three radio stations and in four languages (Quiché, Kakchiquel, Tz'utujil and Español). (ii) The awareness and promotion program on climate change carried out: 1. A radio campaign in four local languages (broadcast in the predominant Mayan languages K'iche ', Kaqchikel, Tz'utujil and Spanish), using specific communication messages on climate change; 2. A training campaign for public school teachers who provide education to fourth, fifth and sixth grade children; 3. Information processes, awareness and empowerment of the direct beneficiaries through training aimed at adults, using demonstration plots and methodologies of "learning by doing" and "farmer to farmer". Audiovisual material (videos, life stories) that it distributed to members and shared through social media platforms. The post-intervention evaluation of the Project reflected significant compliance with the proposed result. Directly the Project benefited 16,533 people, with direct actions in their productive lands or through capacity building (teachers); and indirect beneficiaries are estimated at 103,739 people, 40.1% men and 59.9% women. 90% of the rural population reflected knowledge and could express how climate change can be identified, relating the risks that their families and communities have suffered due to crop losses, floods and landslides. 93% of the rural population said that technicians provided them with information and technical assistance to carry out adaptation measures to climate change through agricultural activities and 92% implemented one or more adaptation measures in their agricultural production land. 87% of women said that climate change can be identified by variations in climate that occur year after year. 96% of women in the rural area said that their families and communities have been victims of the negative effects of climate change, identifying the reasons; 93% of women said they had been trained in adaptation measures provided by Project technicians and 87% of them implemented one or more adaptation measures in their production areas.	At the end of the project, at least 70% of the rural population of municipalities (total of 85.341 rural people) in the target area are aware of predicted adverse impacts of climate change and appropriate response. (disaggregated by gender)

			According PPRs previous, the radio campaign that implements the awareness and promotion program on climate change was completed, in the period of March to October 2017; Its purpose was to raise awareness and promote the issue of climate change for the target population of the Project area. The campaign was broadcast on three radio stations and in four languages (Quiché, Kakchiquel, Tz'utujil and Spanich). The estimated potential audience for the 12 municipalities of the Project's jurisdiction is 240,000 women (51%) and 234,000 men (49%), including rural and urban population. Given the coverage of the three radio stations, the messages reach an even larger population outside the project area. https://goo.gl/hfJFM6 https://goo.gl/mrCSUu https://goo.gl/LLEJfy https://goo.gl/fUi1ZA	
	4.3. Number of lessons learned and best production practices included in Project dissemination strategies and shared on UNDP, MARN, and ALM websites.	There is no public information with a multicultural approach to vulnerability and adaptation practices to climate change. Information on climate change is at a large scale and does not offer the precision required for decision making at the local level.	During the current period, the Project document 10 lessons learned and best practices derived from efforts to develop more resistant production systems, including ancestral and traditional practices. https://goo.gl/MU2BZp According PPRs previous, five life histories of specific beneficiaries of the Project were prepared, which can be seen in the following links: https://youtu.be/jY6o2Sx7t4g https://youtu.be/-epWWyz1g0I https://youtu.be/4_r9Ozg_0hI https://youtu.be/RPuhXOuTsHo https://youtu.be/JQqzUdCdyAw According PPRs previous, ten videos were made on the implementation of 18 small grants projects with local partner organizations; a video was also made about the area of intervention, scope and local partners of the Project. https://goo.gl/ynP2eK https://www.youtube.com/watch?v=gXVmwTF6Fx4 https://www.youtube.com/watch?v=xbS7V2bA0D0	During the Project implementation there will be: ten lessons learned systematized and published annually, four technical standards developed, and four manuals designed and published.

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			(ii) During the current period, the Project supported the formulation of the following regulations: 1. National Strategy for the Promotion of Natural Forest Management for the Purpose of Production 2019-2032 (INAB); 2. Regulation for the implementation of health plans (INAB); 3. Master Plan Multiple Use Reserve Lake Atitlán Basin (RUMCLA) 2019-2023 (CONAP); 4. National Policy for the Integral Management of Residues and Solid Waste (MARN); 5. Guide to prepare studies of characterization of common solid waste (MARN); 6. Guide for the graphic identification of common solid waste (MARN); 7. Regulation of operation and functioning of the compensation mechanism for water and forest services (municipality of Santa Clara La Laguna); 8. Municipal regulation for deconcentration and decentralization of CONAP and INAB functions for family consumption of firewood and wood (municipality of Santa Clara La Laguna, CONAP and INAB). According previous PPRs , 2 technical standards have been developed. In the current period, no technical standard was made.	
			https://goo.gl/4GZigD	
			-	
			(iii) During the current period, the Project supported the preparation of: (i) The mediated Manual of ancestral practices; and (ii) The formulation of the Technical Manual for planning forest inventories through GIS, together with the National Institute of Forests (INAB). According PPRs previous, 4 manuals have been prepared.	
			https://goo.gl/4aU4cw	
			https://goo.gl/pCwF8k	
			https://goo.gl/si9b3w	

5. Issues, challenges and mitigation measures (Environmental and social risks, gender consideration, and other risks)

RISK ASSESSMENT

IDENTIFIED RISKS

List all Risks identified in project preparation phase and what steps are being taken to mitigate them

Identified Risk	Current Status	Steps Taken to Mitigate Risk
National elections and a change in administration lessen support for the project.	Low	Changes in public administration due to national elections or personnel changes did not significantly affect the implementation of the Project. To keep the level of risk low, the following actions were continued to be taken taken: (i) A direct and constant dialogue was maintained with the municipal authorities and the coordinators of the technical units to facilitate the processes. This coordination allowed the activities to be carried out without problems or rejection by the population and facilitated the rationalization of the processes. (ii) Participation in meetings of the Departmental Development Councils (CODEDE), and the Municipal Development Councils (COMUDE) of the 12 target municipalities, managing to socialize the results obtained in the different stages of implementation, and with this it was possible to maintain the validity of the Project in the political agenda.

	Local authorities and communities in the target municipalities will not fully engage with the proposed Project activities, in particular those related to social networks	Low	Local authorities and communities participated actively in the activities carried out by the Project. At the beginning of the Project, the authorities were involved in the development of two municipal planning instruments: (i) Municipal Development Plans (MDP) 2017-2032, which guide the planning of the territory, local investment, land use, and now they incorporate the topic of adaptation to climate change; (ii) Institutional Strategic Plans 2016-2020, which define the work agenda directly from the municipal government, in which specific actions were incorporated, such as the construction of forest nurseries (with the support of the Project) to provide of native plants that were used in the reforestation campaign in the upper and middle part of the Nahualate river basin, campaign that was launched by the Minister of Environment and Natural Resources together with local authorities. The authorities of partner institutions defined work plans jointly with the Project on the basis of Cooperation Agreements. For example: (i) together with the Ministry of Agriculture, Livestock and Food (MAGA) and the Ministry of Education (MINEDUC), family garden plots and school garden plots were promoted with the support of community groups organized in Learning Centers for Rural Development (CADER). (ii) With the National Institute of Forests (INAB), community members were supported to receive forestry incentives for the conservation of natural forests. All the processes had the participation of the communities, organized through Associations, Cooperatives or Learning Centers for Rural Development (CADER).

	Resource use groups and other producers do not understand the need to respond to and plan for climate change risks.	Low	The groups of producers understood very well the need to respond and plan the risks of climate change. To keep the level of risk low, the following actions were taken: (i) The Awareness and Promotion Program on Climate Change was promoted, which included: A radio campaign in four local languages (transmitted in the predominant Mayan languages K'iche ', Kaqchikel, Tz'utujil and Spanish), using communication messages specific on climate change; (ii) A training campaign for public school teachers who provide education to fourth, fifth and sixth grade children; (iii) Information processes, awareness and empowerment of the direct beneficiaries through training aimed at adults, using demonstration plots and methodologies of "learning by doing" and "Farmer to Farmer". Audiovisual material (videos, life stories) was created that was distributed to members and disseminated through social media platforms. The post-intervention evaluation of the Project established that 90% of the rural population indicated they knew and could express how climate change can be identified, relating the risks that their families and communities have suffered due to crop losses, floods and landslides. 93% of the rural population said that technicians provided them with information and technical assistance to carry out adaptation measures to climate change through agricultural activities and 92% implemented one or more adaptation measures in their agricultural production land now without direct support of the Project. (iii) The implementation of adaptation measures through good agricultural practices was carried out on 968.34 hectares, using two strategies: (i) implementation of community projects; and (ii) the strengthening of the Ministry of Agriculture, Livestock and Food (MAGA) to support community groups organized in the Learning Centers for Rural Development (CADER), using demonstration garden plots to teach soil conservation practices.

			(iv) The hiring of local technical teams and the incorporation of local organizations as partners to implement small donation projects enabled the training of 16,170 women and men in soil and water conservation practices, resilience and adaptation to climate change, organizational strengthening , governance, accounting, good agricultural practices (GAP), good management practices (GMP). These actions were complemented by the radio campaign that sought to raise awareness and promote the adaptation to climate change in the population of the Nahualate river basin. Both processes were carried out in three local languages (Quiché, Kakchiquel, tz'utujil) and in Spanish, valuing the transfer of knowledge through the spoken word, ancestral practice used by the Quiché, Kakchiquel and Tz'utujil cultures. (v) An improvement was promoted in the economy of at least 2,491 member households of one hundred and twenty nine (129) community organizations (cooperatives, community producers and watershed management boards), through the creation of 8 producer networks and 4 value chains, increasing the monthly income of households by 17.26% (USD 34.05).
	Partners and stakeholders fail to cooperate and/or project data may not be shared between stakeholders	Low	The communication with the partner institutions of the project was effective. The dissemination of information was mainly done through the Inter-institutional Support Committee. In the Department of Sololá, the Committee is established within the Rural Development Commission of the Departmental Development Council, and in Suchitepéquez, the committee was established within the Environment Committee of the Departmental Development Council. Both committees held meetings every two months, where the results obtained were socialized and where the partners planned, coordinated and evaluated the results of the Project. The local organizations partners in the implementation of small donation projects, were important allies to publicize the results to the direct beneficiaries. Monthly meetings were held with the organizations to provoke an exchange of experiences based on the scope of these results.

	Vulnerable groups with low levels of technical, management and financial capacities are unable to make efficient use of existing micro-finance facilities for climate resilient activities	Low	Support was given to vulnerable groups with low levels of technical, administrative and financial capacity, so that they would initially know the existing microfinance mechanisms in Guatemala, including current legislation. They were supported to define and implement a scheme that they consider viable as an organized group. The creation of two microfinance plans was promoted, benefiting 392 women, with the aim of providing microcredits oriented at supporting processes of adaptation to climate change. Each fund was set up as an instrument that seeks to contribute to the provision of capital at a low interest rate for associates that need to finance agricultural activities or develop agricultural, artisan and commercial ventures. A condition for granting microcredit is the development of good practices that are friendly to the environment or adaptive to the climate. Prior to the promotion of the two microcredit funds, a previous study allowed the identification of four microfinance mechanisms in Guatemala, which, once established, can support the implementation of measures to adapt to climate change. These microfinance mechanisms were socialized in a forum with experts and the public interested in the area of the Project. In addition, through another study, financial mechanisms were established to cover the risks related to adaptation to climate change (agricultural sector), evaluating the availability of these mechanisms in Guatemala and their relationship with the Climate Change Law. The Ministry of Agriculture, Livestock and Food (MAGA) and the Ministry of Environment and Natural Resources (MARN) held an event for debate, socialization and dissemination of these mechanisms.

Gender considerations:

(i) The project managed to be inclusive in gender, proof of this, directly benefiting 16,533 people, 40.1% men and 59.9% women. The final evaluation on knowledge of climate change allowed us to know that 90% of the rural population reflected knowledge and could express how climate change can be identified, relating the risks that their families and communities have suffered due to crop losses, floods and landslides and the 92% implemented one or more adaptation measures in their agricultural production land, being in the case of women 87% who indicated that they had implemented one or more adaptation measures in their production areas. 87% of women said that climate change can be identified by variations in climate that occur year after year. 96% of women in the rural area said that their families and communities have been victims of the negative effects of climate change, identifying the reasons; 93% of women said they had been trained in adaptation measures provided by Project technicians.

The actions undertaken by the Project have allowed women to be involved in the resolution of specific situations of community groups, participating more actively in social, economic-political and environmental life of the community. The Project has provided an opportunity for women to strengthen knowledge, discuss problems, define aspirations and value their potential within community groups.

(ii) The gender approach starts from the equality of rights and obligations of men and women, to achieve a good family and community life. Processes were initiated to strengthen the family economy through the development of product chains in the search for market windows that allow the strengthening of the family economy. The processes initiated open spaces and mechanisms for both men and women, who have trained and occupied spaces at different levels of marketing chains.

6. Lessons learned

Lessons for Adaptation	Response
What have been the lessons learned, both positive and negative, in implementing climate adaptation measures that would be relevant to the design and implementation of future projects/programmes for enhanced resilience to climate change?	Mid-term: • The creation of socio-economic networks of producers is a successful practice as it proved to provide community groups with a competitive advantage to access local, national and international markets by negotiating group market prices and facilitating the implementation of adaptation measures as knowledge transfer was replicated with greater ease and acceptance. • The hiring of local technical teams and the incorporation of local organizations as partners facilitates the implementation of adaptation measures and the transfer of knowledge in a manner that is valued by the beneficiaries. • The direct involvement of government institutions while important, can slow down actions if project execution is affected by lengthy government planning processes; therefore it is important to separate the functions of actors, their role and capacities and plan accordingly based on realistic milestones by each party. • Producers value local crops that both reward excellent commercial and environmental benefits. It is important to keep this in mind and identify in the beginning of the intervention those crops that meet this double purpose. • The transfer of knowledge, achievements and stumbling blocks of the intervention, must contemplate a communication strategy that uses tools of broad population coverage for the area of intervention (i.e radio) and ensure to consider cultural aspects such as the language and customs of the target beneficiaries.

	Project completion: • To favor the alliances between the diverse actors linked to the subject, including the promotion of joint actions between scientific institutions, academia, community organizations, private sector, government. • The evaluation made it possible to observe, as a lesson learned, that project design is effective and efficient when the pertinent adjustments are made in order to act synergistically and jointly as required by the nature of the project itself. The highly complex and vulnerable areas require that international cooperation and institutions work with a multidimensional approach to comprehensively focus on the issues addressed. Intervention in the watersheds of the Nahualá River requires joint operations, for meeting problems of poverty, ethnicity, social and political matters.
What is the potential for the climate resilience measures undertaken by the project/programme to be replicated and scaled up both within and outside the project area?	Mid-term: • Kreditanstalt für Wiederaufbau (KFW), is currently working in upscaling the project with its own funds in the of the department of Quiché. In particular KfW has looked to replicate the structure of components 2 and 3 in its design of its project. • The Mid Term Review has signaled that the successes of PPRCC should be replicated by the Ministry of Environment and Natural Resources (MARN, for its acronym in Spanish), advising it to consider the possibility of identifying further financial resources for its replication in other more vulnerable areas of the country, particularly in areas where crop productivity is projected to decrease due to limited adaptive capacity. The project will continue to work with MARN to facilitate measures for this recommendation. • The Ministry of Agriculture, Livestock and Food (MAGA, for its acronym in Spanish), a government partner of the Project, has selected agricultural extension technicians and community leaders that make up the Learning Center for Rural Development (CADER), to carry out knowledge transfer to community groups both inside and outside the intervention zones. This has allowed these technicians to provide knowledge transfer and lessons learned from the project beyond the target areas. Project completion: • The final evaluation established that, at the community level, it may be more useful for communities to assimilate "adaptation and mitigation to climate change" through specific actions on the issue (for example, adaptation measures such as water harvesting, soil improvement, etc.), allowing them to relate the problem to their daily lives and to assimilate the tools through practical activities (learning by doing). At the time of the evaluation, a group from a Nicaraguan organization was visiting a group, becoming familiar with the practices implemented by the project.

Concrete Adaptation Interventions	
What have been the lessons learned, both positive and negative, in implementing concrete adaptation interventions that would be relevant to the design and implementation of future projects/programmes implementing concrete adaptation interventions?	Mid-term: • The involvement of local governments (community mayors, indigenous leaders, spiritual leaders) has a positive effect on the implementation of adaptation measures, these entities carry out planning activities and make decisions on common issues for the communities they represent. • The creation of community resilience committees as a figure facilitates the empowerment of women in the implementation of adaptation measures, because it allows them to have a new role within the community group, in which they influence the relationship between the environment and the productive spheres by supporting in the food and economic security of their household. • Valuing the ancestral or traditional practices of the communities and contributing to recover these, can potentiate the success of the intervention. Particularly as it facilitates the participation and appropriation of the community as a whole. • For the design of similar projects, fieldwork should allow from the beginning of the interventions to identify the predominant role of women within the community and community organizations, either as leaders of these or as part of the implementation of adaptation measures. This planning is enhanced when jointly establishing the schedule in which the woman can perform extra-family activities. This can potentiate the success of specific interventions. Project completion: • The final evaluation made it possible to observe, as a lesson learned, that project design is effective and efficient when the pertinent adjustments are made in order to act synergistically and jointly as required by the nature of the project itself. The highly complex and vulnerable areas require that international cooperation and institutions work with a multidimensional approach to comprehensively focus on the issues addressed. Intervention in the watersheds of the Nahualá River requires joint operations, for meeting problems of poverty, ethnicity, social and political. • To favor the alliances between the diverse actors linked to the subject, including the promotion of joint actions between scientific institutions, academia, community organizations, private sector, government.

What is the potential for the concrete adaptation interventions undertaken by the project/programme to be replicated and scaled up both within and outside the project area?	Mid-term: • Kreditanstalt für Wiederaufbau (KFW), is currently working in upscaling the project withi its own funds in the of the department of Quiché. In particular KfW has looked to replicate the structure of components 2 and 3 in its design of its project. • The Mid Term Review has signaled that the successes of PPRCC should be replicated by the Ministry of Environment and Natural Resources (MARN, for its acronym in Spanish), advising it to consider the possibility of identifying further financial resources for its replication in other more vulnerable areas of the country, such as those where crop productivity is projected to decrease due to limited adaptive capacity. The project will continue to work with MARN to facilitate measures for this recommendation. • The MAGA has selected agricultural extension technicians and community leaders that make up the Learning Center for Rural Development (CADER), to carry out knowledge transfer to community groups both inside and outside the intervention zones. This has allowed these technicians to provide knowledge transfer and lessons learned from the project beyond the target areas. Project completion: • The final evaluation established that, at the community level, it may be more useful for communities to assimilate "adaptation and mitigation to climate change" through specific actions on the issue (for example, adaptation measures such as water harvesting, soil improvement, etc.), allowing them to relate the problem to their daily lives and to assimilate the tools through practical activities (learning by doing). At the time of the evaluation, a group from a Nicaraguan organization was visiting a group, becoming familiar with the practices implemented by the project.
What would you consider to be the most successful aspects for the target communities?	• The formation of socioeconomic networks of producers, grouped on the basis of productive chains such as cocoa, honey, maxan leaf and vegetables (peas). • The construction and provision of collection centers to facilitate the storage and manufacture of products. • The opening of markets and the training of leaders to negotiate prices and market windows. • The formation of resilience groups with the legal recognition of the local government (Municipal Mayor). • The transfer of technical knowledge using the local languages to enhance capacities.

What measures are/have been put in place to ensure sustainability of the project/program results?	Mid-term: • The high level of appropriation of the intervention: The Mid Term Review indicates that there is a good level of appropriation of project activities at all levels which is necessary to contribute to the project long term sustainability, by considering the activities as one of national and community interest. It should be noted, that community leaders and local organizations are already proving to be comfortable managing the market for their products, a situation that will be enhanced with the availability of storage centers. • Development of planning tools: The sustainability of the project actions from the institutional point of view can be seen through the Institutional Strategic Plans and Municipal Development Plans that have been developed with the support of this project. The challenge that remains is ensuring that these are used to continue with institutional strengthening actions, the implementation of adaptation measures and in dissemination of information in the short and medium term. • Generating financial mechanisms. The project identified micro-financial mechanisms to support processes of adaptation to climate change in the communities. These are in their final phase of design. Project completion: • At the community level, sustainability is more likely due to the actions carried out by the project through strengthening, the structures of community organizations and the creation of legally constituted structures that allow producers to market their products by accessing both national and international markets directly. The establishment of "revolving funds" through the micro capitals granted by the project is an important element to generate sustainability. • The actors participating in the project activities have increased their capacities through different actions such as training both at the community level and partner institutions. This aspect is contemplated in the intervention strategy from the PRODOC. The processes, since their implementation, have involved local people as the main actors, not only as beneficiaries, but as partners. The activities respond to the needs identified by them, where they have expressed interest in participating and giving continuity to the activities carried out, so they are more likely to be relevant and to last over time. In addition, they have an insertion in new structures and processes and consolidation processes such as value chains. • The project has implemented some strategies with a view to the sustainability of actions: strengthening the capacity of national and local actors, promoting the institutionalization of progress (including through regulatory instruments), linking to ongoing platforms and processes so that the responsible institutions or organizations can subsequently give continuity to the actions, and ensure that the actions respond to demand and are useful for institutions/organizations, among others. The impact on governance has been facilitated and actively participated in a large number of workshops and regional forums of all kinds.

What measures are being/could have been put in place to improve project/program results?	• Developing business plans to 2022: The Mid-Term Review, recommended developing business plans to offer a better future outlook on supply, demand, prices and competition for productive chains including the local, national and international markets. • The in-kind contribution made by the communities and local organizations, together with small financial contributions from local organizations aimed at forming microfinance and revolving funds mechanisms, has contributed to improving the results of the project. Records of contributions in kind, in future projects, should be accounted for to strengthen the appropriation of activities by local partners.

How has existing information/data/knowledge been used to inform project development and implementation? What kinds of information/data/knowledge were used?	Mid-term: • The project's communication strategy has produced abundant audiovisual content, informative and inductive activities, all available on-line. This has included a concerted effort to ensure correct dissemination amongst all actors through relevant mediums. This includes a radio campaign to generate knowledge, enhance participation and local sensitivity to the causes and effects of climate change as well as to existing adaptation actions for resilience. • The project also promoted the identification and rescue of ancestral practices proven effective as adaptation measures to ensure that these would be well accepted and internalized within the communities. Project completion: • The website (http://www.marn.gob.gt/s/pprcc/) serves as an information platform and also as a transparency mechanism to publicize the project, its publications, studies, videos and the important actions done; including the contracting processes in progress. Videos, photographic essays and written pieces of success stories of beneficiaries of the project that have been made and disseminated internationally. The social networks of the project are also used, where many of the beneficiaries and actors follow the activities. At a technical level, monthly meetings are held with the LCP coordinators to learn about the progress of the project and exchange information on the actions carried out by the Management Unit. Field visits to follow up and implement the LCP, which is shared with authorities of the institutions and beneficiaries to provide feedback on the progress of the project, are also regular. • Social communication was a tool to promote awareness, behavioral changes and facilitate knowledge about the causes and consequences of climate change and how to deal with them appropriately. The radio, print and digital media and social networks were used as means to reach external audiences based on a communication strategy developed from the project as one of the mechanisms for raising awareness among the population. Based on this strategy, an information, awareness and participation campaign was carried out by radio. This campaign was carried out in four local languages (K'iché, Ka'qchikel, Tz'utjil and Spanish). In addition, opinion columns and radio interviews have been written to publicize the progress of the project. On the other hand, journalistic coverage has been given by national media to important events and actions of the project. Another essential element of external communication corresponds to the realization of a documentary video (http://www.marn.gob.gt/s/pprcc) with the presentation of the project and ten videos of the actions of the local community projects, which have been shared with the entities responsible for the project and beneficiaries. It is the criterion of the evaluator that the experience developed by the project in terms of communication is relevant and highly satisfactory.

If learning objectives have been established, have they been met? Please describe.	The project aims, that at the end of the project, at least 70% of the rural population of the municipalities (a total of 85,341 people from rural areas) in the target area knows the expected adverse effects of climate change and adequate response (disaggregated by gender). At a technical level, monthly meetings are held with the LCP coordinators to learn about the progress of the project and exchange information on the actions carried out by the Management Unit. Field visits to follow up and implement the LCP, which is shared with authorities of the institutions and beneficiaries to provide feedback on the progress of the project, are also regular. The radio, print and digital media and social networks were used as means to reach external audiences based on a communication strategy developed from the project as one of the mechanisms for raising awareness among the population. The post-intervention evaluation of the Project reflected significant compliance with the proposed result. Directly the Project benefited 16,533 people, with direct actions in their productive lands or through capacity building (teachers); and indirect beneficiaries are estimated at 103,739 people, 40.1% men and 59.9% women. 90% of the rural population reflected knowledge and could express how climate change can be identified, relating the risks that their families and communities have suffered due to crop losses, floods and landslides. 93% of the rural population said that technicians provided them with information and technical assistance to carry out adaptation measures to climate change through agricultural activities and 92% implemented one or more adaptation measures in their agricultural production land. 87% of women said that climate change can be identified by variations in climate that occur year after year. 96% of women in the rural area said that their families and communities have been victims of the negative effects of climate change, identifying the reasons; 93% of women said they had been trained in adaptation measures provided by Project technicians and 87% of them implemented one or more adaptation measures in their production areas.
Describe any difficulties there have been in accessing or retrieving existing information (data or knowledge) that is relevant to the project. Please provide suggestions for improving access to the relevant data.	Initially, access to systematic climate data found several limited capabilities and technical problems. Project supported INSIVUMEH through the installation and start-up of a high-capacity data storage server, with the purpose that the elaborated database will function correctly. In addition, the Project supported the validation and updating of information from 29 meteorological stations, which were incorporated for the first time into the meteorological network, which belong to entities of the private sector (Institute of Climate Change and National Coffee Association), entities with which now , INSIVUMEH has a long-term mutual cooperation agreement. These meteorological stations are located in the southern region of the country, covering the lower and middle part of the Nahualate river basin (target area of the Project).

Has the identification of learning objectives contributed to the outcomes of the project? In what ways have they contributed?	Yes. The target population is more sensitive to the effects of climate change and the adaptation measures they must implement, mainly in the agricultural sector and the risks to exreme climatic events (droughts, floods).

7. Sustainability, scalability and replicability

The initiative had a strong sustainability feature from the local organizational viewpoint, which will consolidate the optimization of financing mechanisms and the strengthening of productive chains, hoping to attract more funds and investments. Although a very early measurement, the household income survey indicates an increase of 17%, which is expected to increase in the following production cycles.

There are already early signs of replication of the experience generated through the project, including:

- The municipal planning instrument elaborated by the initiative is now being applied in other municipalities of the country by the National Presidency's Secretariat for Planning - SEGEPLAN.
- The Forestry Incentive Programme is currently being expanded throughout the country and the project's experience will inform its operations.
- The project served as reference for the elaboration of a debt-swap initiative with the Government of Germany replicating various components of the project in the Department of Quiché, in the upper watershed of Salinas and Motagua Rivers.
- Visit of the MANSLAGO-Nicaragua Project to know the good experiences of the project and replicate them with their beneficiaries.

<u>As mentioned earlier, Identifying and applying financial mechanisms and incentives is a key part of the sustainability features of the project:</u>

Within the project *"Climate change resilient production landscapes and socio-economic networks advanced in Guatemala",* studies were carried out on existing and potential financial mechanisms applied in the country, including payment for ecosystem services – e.g. compensation for forest conservation to provide watershed regulation services), micro-finance mechanisms, certification and budgetary planning with national and local organizations, to foster enabling environment for private sector engagement and support. The project has facilitated so far the following partnerships to create innovative financial mechanisms:

Private-private partnership: the preparation of a proposals on maintenance of watershed services and water supply in the Ixtacapa River sub-basin between small-holder producers in 9 communities located in the upper part of the sub-basin and private owners of bigger farms located on the lower part, mainly producers of sugar cane, rubber and coffee. A proposal was developed to establish a trust fund to allow capturing further financial resources for development projects of the 9 communities living in upper watershed areas and to protect the conservation of 950 Ha of natural forests, protecting the source of the Ixtacapa river. Seed funds will be provided jointly by the private land owners and through donations. The project team provides technical guidance for the elaboration of technical manuals and legal processes in support of setting up and operationalizing the fund.

Public-private partnerships: The Water and Forest Services Compensation Mechanism has been established by the The Municipality of San Clara La Laguna, Department of Sololá, which was jointly promoted with the Friends of the Ixtacapa River Association (ADRI) and the National Forestry Institute (INAB). This proposal is based on the technical guide facilitated by the project about implementation of Ecosystem Compensation Mechanisms and Environmental Services Associated with Forests, and its manual approved by INAB. This mechanism is in accordance with the provisions of Articles 6 and 19 of the Law on Promotion of Establishment, Recovery, Restoration, Management, Production and Protection of Forests in Guatemala (PROBOSQUE). Initially, it is proposed that the municipality collects financial resources for the potable water service to the populations and for authorization of family consumption of firewood and wood of up to 7 cubic meters per family per year; two municipal regulations provide legal support to the operational manual that has the backing of rural and urban communities.

Micro-finance mechanisms: the initiative supported the establishment of microfinance funds that will provide micro-loans to the local producer groups, man and women. Each fund includes criteria for the micro-credit approval that beneficiaries should integrate climate change adaptation measures in their proposed activities. The project promoted a micro-finance mechanism aiming at supporting 2 local organizations: The Ixb'alam Cooperative (which stems from the support provided by ALANEL, Association for Integral Pro-Development of Women), and the AGEMA Cooperative. An inter-institutional committee is being set up for the management and monitoring of the process. Both beneficiary organizations will provide seed-funds, in order to attract further funds. Another scheme is the Agro-environmental Management Fund (FOGAA) which have been created for the sub-basin of the Ixtacapa River under the leadership of "Friends of the Ixtacapa River Association (ADRI)". The Fund is legally supported by the establishment of a trust mechanism, that provides flexibility to diversify its methods of generating and raising funds of legal origin, efficiency, transparency, clarity in governance and facilitation for the monitoring and evaluation of investment projects.

Value chain support: the project supported the community groups for the climate-smart production and commercialization of honey, cocoa, peas and maxan. A part from providing support to establish commercial links and access to markets, all community groups are being supported through the provision of basic tools and equipment, capacity building in production and processing, raising and ensuring high quality products, increasing production, product diversification, organic and climate-adaptive practices, establishing or strengthening company or cooperative structures. Here are some examples on how commercial links are being strengthened:
Honey: two producer networks are being supported (in the Altiplano high mountain and coastal areas) – commercial links have been established with the national company called COPIASURO SL, which exports honey to Mexico and various countries in Europe. A company was formed in the

coastal zone which groups 4 local producer organizations, having a collection center equipped to process more than 80 tons of honey and process other by-products directly by groups of women such as pollen and propoleum.
Peas: six community groups are being supported in the Altiplano zone, which have gone through certification by the national standard of Local-GAP (Good Agricultural Practices), and will aim at getting certification by the Global-GAP system. Access to international markets is being fostered through national exporting companies (like SIESA, UNISPE, SIESA y ASUNCIÓN EXPORT), reaching countries, like Germany, The Netherlands, Norway, Sweden and UK.
Maxan: a coastal community group is being supported with links to local market places through CENMA ("Central de Mayoreo" – Wholesale Center), at the municipalities of Quetzaltenango, Huehuetenango, El Quiche and Sololá.
Cocoa: 158 families (men and women) were supported to form a network of producers in the coastal zone. The production is sold internally; part goes to the production of handmade chocolate through four organized groups of women, whose sale is local.

8. Project expenditure

Estimated cumulative total disbursement as of December 31, 2018	**$5,000,000.00**
Add any comments on AF Grant Funds. (word limit=200)	The Project achieved efficient financial execution and implementation, faster than agreed in the initial schedule (scheduled for July 1, 2019).

UNDP PIMS ID	Beneficiary Country	Business Unit	Project Award ID	Project Output ID	Project Title	2015	2016	2017	2018	Grand Total
4386	Guatemala	GTM10	60326	75911	Climate change resilient production landscapes and socio-economic networks advanced in Guatemala	6,141.31	3,161.92	13,848.52	5,416.83	**28,568.58**

Note: According to UNDP current policies, the investment income earned will be used primarily to fund country programme support activities, including project formulation, knowledge codification and dissemination and related activities. For investment income earned on Adaptation Funded projects, UNDP-GEF plans to use the amount following UNDP policy.

Annexes

- Inception Workshop Report (in Spanish): http://www.marn.gob.gt/Multimedios/5461.pdf
- Key project staff list:

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Date:	January/14/2017

- Websites:

Website: http://marn.gob.gt/s/pprcc
http://www.adaptation-undp.org/projects/af-guatemala
Final knowledge reports: http://marn.gob.gt/s/pprcc/paginas/Lecciones_aprendidas
Including: Systemizing experiences and lessons learnt from the project (In Spanish)
http://marn.gob.gt/Multimedios/13241.pdf

Videos:

Youtube channel for the project:
https://www.youtube.com/channel/UCPYp7S8KD-4sL5djL_Xy7gg/videos

English:

Supporting Productive Landscapes in Guatemala - Extended Learning
In favor of the forest
Our family's livelihood
It's never too late to change
Honey: an alternative to community development
Cocoa is my business