



ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: INNOVATION SINGLE COUNTRY PROJECT CONCEPT

ADAPTATION FUND

Countries/Region: Panama

Project Title: Applying Traditional Ecological Knowledge to Agroforestry and Silviculture as Natural Base Solutions to Increase Resilience to Climate Change in the Ngäbe-Bugle and Veraguas Territory in the Republic of Panama

Thematic Focal Area: Innovation / Nature based solution and ecosystem-based adaptation

Implementing Entity: Fundación Natura

Executing Entities: Ministerio de Ambiente

AF Project ID:

IE Project ID:

Requested Financing from Adaptation Fund (US Dollars): 4,960,213.13

Reviewer and contact person: Claudia Lasprilla

Co-reviewer(s): Alyssa Gomes, Eleanor Saunders

IE Contact Person:

Technical Summary:	<p>The project “Applying Traditional Ecological Knowledge to Agroforestry and Silviculture as Natural Base Solutions to Increase Resilience to Climate Change in the Ngäbe-Bugle and Veraguas Territory in the Republic of Panama” aims to increase resilience to climate change in vulnerable indigenous communities of the Ngäbe-Bugle and Veraguas territory in the northeast region of Panama by increasing the resilience of traditional agricultural systems and providing opportunities to obtain economic inputs with locally proven technologies.</p> <p>This will be done through the three components below:</p> <p><u>Component 1:</u> Design of improved agroforestry and silvicultural models based on traditional ecological knowledge (USD 215,000);</p> <p><u>Component 2:</u> Implementation of novel agroforestry and silvicultural models (USD 2,985,000);</p> <p><u>Component 3:</u> Capacity building in novel agroforestry and silviculture models to adapt to climate change (USD 975,000).</p> <p><u>Requested financing overview:</u></p> <p>Project/Programme Execution Cost: USD 396,625 Total Project/Programme Cost: USD 4,571,625 Fundación Natura Implementing Fee: USD 388,588.13 Financing Requested: USD 4,960,213.13</p> <p>The proposal includes a request for a Project Formulation Grant (PFG) of USD 50,000.</p> <p>The initial technical review found that the proposal needs further development in terms of the extent of the project components and justification of the innovation rationale of the proposed interventions. Similarly, it raises several issues such as: cost-effectiveness, sustainability, project duplication, gender inclusion and consideration of local communities in project design and decision-making, as it is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.</p>
Date	21 January, 2022

Review Criteria	Questions	Comments	
Country Eligibility	1. Is/are the beneficiary country/countries a developing country/countries Party/Parties to the Kyoto Protocol?	Yes.	
	2. Is the participating country / are all participating countries developing countries particularly vulnerable to the adverse effects of climate change?	<p>Yes.</p> <p>Panama is experiencing shifts in the onset of rain, longer dry seasons, and more severe storms, decreasing the agricultural systems' productivity and causing complete loss of crops.</p> <p>The Ngäbe-Bugle and Veraguas territories in the northeast region of Panama specifically are a highly marginalized region with scarce opportunities for economic income.</p>	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund / Have the governments' designated authorities for the Adaptation Fund endorsed the project?	<p>Yes.</p> <p>As per endorsement letter dated January 5th 2022.</p>	
	2. Does the project/programme support concrete adaptation actions to assist the country or countries in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience? In case of regional project/programme, is there added value using the regional approach, compared to implementing similar	<p>Not clear.</p> <p>The project proposes improving agroforestry systems, reforestation of degraded lands with locally adapted species, and adding value to timber and non-timber products. Similarly, it includes a capacity building and training component that aims to foster the adaptability of the proposed practices.</p> <p>However, the proposal does not describe or take into account climate change in the territories where the project will develop.</p> <p>Explaining the difference between the current situation and the desired outcome helps to define the</p>	<p>CR1. This project Will be implemented in the upper and middle Tabasara watershed located in the pacific west region in Panamá (Figure 1). Administratively this region belongs to Las Palmas and Cañazas districts in the province of Veraguas and the districts of Nurun and Muna in the Ngäbe Buglé Comarca.</p> <p>This region faces climate change phenomena that increase the vulnerability of socio-economic and natural ecosystems. Severe storms and hurricanes have led to the loss of traditional crops¹, and the agricultural sector is highly vulnerable to climate change according to the national vulnerability map ². Severe storms also negatively impact existing</p>

¹ <https://weather.com/news/news/2020-11-17-hurricane-iota-impacts-nicaragua-colombia-honduras-central-america>

² [PB Panamá Old.pdf \(cgiar.org\)](#)

	activities in each country individually?	<p>components of the project, the problem statement, and clearly draw a path to follow when implementing the project.</p> <p>CR1: Please identify the target areas where the project will be implemented and state their current vulnerabilities to the impact of climate change.</p> <p>CR2: Clarify how each of the activities described will help build climate resilience in the territories and why they are needed.</p> <p>CR3: Please clarify how the project will overcome the current issues on water availability in these territories and how it will ensure its correct usage during agricultural practices and while building/functioning of the wood processing facility.</p>	<p>infrastructure and social services. In 2021 landslides blocked the region's main access points, causing the suspension of health and educational services³.</p> <p>CR2. There are few opportunities for economic income in the region, and the main activity is household agriculture with slash-and-burn practices. The slash and burn systems rely on natural soil fertility and predictable wheater patterns; hence this cropping system is highly vulnerable to climate change. Moreover, there is a reduction in the fallow periods required to recover soil fertility, leading to soil erosion and degradation. The project aims to strengthen the resilience of communities by implementing productive activities and capacity building.</p> <p>The following activities are novel in the region, and the communities and community-based organizations propose them. Regarding traditional agricultural systems, local farmers recognize that slash and burn practices are causing adverse environmental impacts such as soil erosion and forest fires; hence, more sustainable and resilient practices are needed. Similarly, a sustainable forest management plan aims to restore degraded lands and produce economic inputs for the communities.</p> <p>Agroforestry</p> <p>The agroforestry systems to implement and develop must bring together the technical expertise from technicians of the ministry of the environment and the traditional ecological knowledge of farmers regarding knowledge about soil, plant species, and local practices. This novel approach allows designing agroforestry systems suited to the local conditions.</p> <p>Agroforestry systems exhibit synergic effects that make them more resilient to climate change. A multi strata agroforestry system is more efficient in using water, sunlight, and soil nutrients. The use of a variety of locally adapted plant species can provide resilience to climate change-related phenomena</p>
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³ . https://www.tvn-2.com/nacionales/Suspenden-escuelas-comarca-deslizamientos-Ngabe-Bugle_0_5969403034.html

		<p>such as droughts, atypical storms, as well as pests and disease outbreaks.</p> <p>This agroforestry will provide both environmental and economic benefits. It is an alternative to slash and burn practices and reduces related forest fires. Trees in the system will mitigate climate change by sequestering carbon in the biomass and soil.</p> <p>Moreover, it will contain a variety of plant species that provide food, fiber, medicine, wood, and profitable crops such as coffee and cocoa.</p> <p>Silviculture management or sustainable forest management</p> <p>Although the Comarca Ngöbe Bugle is located in a highly forested area, there have been no plans or projects for sustainable forest management, and the focus has been on conservation. This approach has led to illegal logging and forest degradation due to forest fires. Hence the management of forests to provide environmental benefits such as carbon sequestration and economic inputs is a novel approach in these communities. Moreover, this is a community-based initiative.</p> <p>This project proposes developing a sustainable forest management plan that includes the selective logging of 600 hectares of pinus Pinus caribea. The local communities established these forest stands in the 1970s and 1980s, and now they are looking to obtain economic benefits by doing selective logging. Derived wood products are considered carbon sinks, hence mitigating climate change. Moreover, wood products are also ecologically more efficient than other materials and have highly recyclable properties that are less energy-intensive⁴. As part of sustainable forest management, the project wants to install a wood processing facility and produce economic inputs by adding value to forest-derived raw materials. This facility will provide sustainable economic activities to the local population.</p> <p>Reforestation</p>
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⁴ [OV mei '07 \(europanel.org\)](http://OV.mei'07.europanel.org)

		<p>The reforestation activity in this project will be a component of a sustainable forest management plan.</p> <p>Reforestation is a crucial option for combating climate change⁵. This activity will also provide ecological restoration of degraded lands in the region and provide economic inputs. Hence this is a novel approach that tackles both environmental and socioeconomic issues.</p> <p>The intended area for reforestation has experienced desertification processes in the last decades now; local forest technicians and community members propose reforestation by scaling proven ecological restoration initiatives with locally adapted species.</p> <p>The reforested area will turn into ecological corridors and provide ecosystem services such as water supply and valuable wood products. Other target areas for reforestation include riparian zones that are crucial as water reservoirs.</p> <p>Capacity building</p> <p>Capacity building is a critical component in this project to ensure the sustainability of the proposed actions. The project is planning to build a center for training and capacity building. The topics to cover are agricultural practices that are resilient to climate change (agroforestry), sustainable forest management, wood processing (for furniture), local technologies to increase resilience to climate change. To implement the training, along with traditional training formats, with presentations and demonstrative practices, we also propose to use alternative methodologies such as "farmer to farmer" and traditional assemblies.</p> <p>The capacity-building center will primarily help roll out successful technologies within the region and at the national and international scale; however, it will also function as a center for innovation to adapt to climate change.</p> <p>CR3. The activities proposed in this project will help improve water management in several ways.</p> <p>Ecological restoration of degraded lands and riparian</p>
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⁵ [Forests and Climate Change | MIT Climate Portal](#)

			<p>zones will help water catchment and storage. Some reforestation will take place in previously grassed areas hence improving water sequestration and storage in these areas.</p> <p>Agroforestry uses water more efficiently because it has a diversity of plant species, and the soil is permanently protected. Agroforestry systems are intended to replace traditional slash and burn practices that have a low water catchment capacity during the cropping season.</p> <p>The wood processing facility will be connected to existing water facilities, and it will not cause major disruptions in the current water systems. The category of environmental impact assessment on water bodies of this facility is "category II," meaning that it will have significant environmental impacts and can be mitigated with preventive actions (see environmental impact assessment section).</p>
	<p>3. Does the project/programme help spread innovative adaptation practices, tools and technologies that have demonstrated success in one country to another country, countries or regions; and/or</p> <p>Does the project/programme pilot at larger scale innovative adaptation practices, tools or technologies generated that have demonstrated viability at a small scale?</p>	<p>Not clear.</p> <p>The proposal mentions the scalability of traditional agricultural systems that have worked in other areas of the country and the development and implementation of novel agroforestry and silvicultural models.</p> <p>However, the innovation rationale is not clearly described in the proposal. Innovation should be considered as a process; otherwise, it will be a simple 'technology transfer' or a standard 'roll out' in the case of a scaling up project. Similarly, the process of innovation includes testing and co-creation, which derives from a participatory process.</p> <p>CR4: Please clarify the traditional ecological knowledge for agricultural systems that will be implemented and further elaborate on the "how", i.e., the methodology to "roll out" of the selected systems.</p> <p>CR5: Please clarify what systems will be implemented and why were these specific systems selected. Similarly, justify why and how agroforestry and silviculture are considered novel processes in this</p>	<p>The focus of the project proposal has been improved considering the observations of the AF. The framework of the proposed results and the description of the components focus on the proposed innovative actions based on the vulnerabilities determined for the area of intervention. Please review the section: Project / Program Background and Context and the improved section on Project / Program Components and Financing.</p>

		<p>area. Please highlight the benefits of scaling up these activities in the selected areas.</p> <p>CR6: Please clarify how the proposed interventions promote innovative adaptation solutions to climate change.</p> <p>One of the project's specific goals is to To assess traditional ecological knowledge to improve agroforestry and silvicultural models</p> <p>CR7: Please clarify how will the project assess traditional ecological knowledge. It is important to clarify (i) What will be assessed (e.g. approaches, uptake of traditional practices, benefits to be generated to the environment and from a social perspective; (ii) Target areas that would be considered; (iii)What tools will be used for the assessment? (iv) What parameters will be considered for the selection of approaches and assessment? (v) Has this process already taken place, or would it be carried out during implementation? If so, what is the timeline?</p>	
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		<p>In terms of sustainable forestry management and wood processing components, these have been successfully implemented in other areas in Panama. However, this is the first time such activities will be implemented on indigenous territory. This is highly relevant because traditionally forested areas are being displaced by more profitable grazing livestock due to the lack of sources of economic income.</p> <p>The activity is occurring for the first time in a new context (indigenous territory), and this in itself is innovation.</p> <p>CR8: Kindly provide a justification for developing the wood processing facility and clarify how this activity with help building resilience to climate change. Include additional details on the outcomes of consultations with communities, clearly presenting their views on the envisaged activity. Please also clarify how the project will avoid maladaptation in the context of this activity.</p> <p>The secretariat has created two guiding documents to support Implementing Entities in their application process:</p> <p>https://www.adaptation-fund.org/wp-content/uploads/2021/04/AFB.PPRC_27.28-Operationalization-of-the-large-grants-for-innovation.pdf describes the process for the creation of Large Innovation Projects and in Annex IV (pages 28 to 43) provides a set of instructions on what type of questions proponents should think when writing their proposals</p> <p>https://www.adaptation-fund.org/wp-content/uploads/2021/04/AFB.36.8-Further-Clarification-of-the-Vision-and-Definition-of-Innovation.pdf states the Fund's approach to innovation, and in Annex I (pages 13 to 19) presents guidance on how to approach innovation in adaptation within proposals</p>	
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		<p>Please use the following guidance for all other sections in the proposal template that are not innovation grant specific</p> <p>https://www.adaptation-fund.org/document/opg-annex-5/</p>	
	<p>4. Does the project/programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Not clear.</p> <p>The proposal touches in a general manner how the activities will provide opportunities to improve indigenous communities' livelihood. However, it is difficult to measure the extent of the benefits without a clear definition of the target group, area, and the activities that will take place.</p> <p>CR9: Kindly include a definition of the target group and area.</p> <p>CR10: Please clarify and enumerate the expected benefits for each proposed activity.</p>	<p>CR9. This project will be implemented in the upper and middle Tabasara watershed located in the pacific west region in Panamá (Figure 1). Administratively this region belongs to Las Palmas and Cañazas districts in the province of Veraguas and the districts of Nurun and Muna in the Ngäbe Buglé Comarca. This area of the project comprises about 500 000 ha that will be impacted directly or indirectly by the activities in this project.</p> <p>The target group are the indigenous Ngäbe and Buglé people located in the Ngäbe Buglé Comarca, and traditional farmers located in the province of Veraguas. Both targets groups are located in the Tabasara watershed, one of the most important basins in the western region of the country.</p> <p>CR10: review the section 4 of the concept:</p>
	<p>5. Does the project engage, empower and/or benefit the most vulnerable communities and social groups?</p>	<p>Not clear.</p> <p>The project is directed to indigenous groups; however, strengthening their voices within the proposal is needed and encouraged. In addition, gender considerations should be better detailed.</p> <p>CR11: Please provide a description/disaggregation on the groups that will benefit from the project activities, including their current income-generating activities, to better understand the positive economic impact of the project activities. See CR9 and CR10 above.</p> <p>CR12: Since the main beneficiaries are indigenous communities, please ensure that the training and knowledge products are developed in local indigenous language and methods of knowledge dissemination are tailored to local traditions</p>	<p>CR11. The primary sector employs 81.4% of the economically active population in the Ngäbe-Buglé region, the highest percentage in the country. The secondary and tertiary sectors employ 10 and 8 % of the economically active population (INEC, Household Survey, 2017). In terms of the population, about 62 000 of the economically active population is employed in the primary sector.</p> <p>The primary activity is household agriculture with subsistence crops such as maize, beans, squash, bananas, casava, rice, sugar cane, cash crops such as cocoa, and various local tubers. This activity is complemented with small livestock such as chickens, ducks, and pigs.</p> <p>Handicrafts play a key role as an economic activity for women. Chacara bags are resistant bags made of vegetable fibers from the wild pineapple plant (<i>Aechmea magdalenae</i>) or other natural fibers (palm bark). The fibers are dyed with roots, lianas, banana</p>

			<p>stem, and then woven into several bag designs. They also make necklaces made of beads, shells and bones, with bright colors and geometric designs, called "chaquiras"; These are used as special decorations for the holidays.</p> <p>CR12. Community members have participated in the development of this proposal since the beginning. The MiAMBIENTE Regional Directorate in the Ngäbe Buglé Comarca, led by Ing. Narciso González, a Ngäbe citizen, and his team, who are all Ngäbes and Bugles, have been actively involved in developing and moving forward this proposal. They have talked to community leaders, presidents of community organizations, administrative authorities, and traditional authorities regarding the actions proposed in the project. The consultations carried out established the viability of the project, and the opinions of community leaders were taken into account to move forward. The Regional Technical Board has also been consulted, which is made up of public institutions in the Region, the Regional Coordination Council, made up of elected authorities, such as mayors and corregimiento representatives. Likewise, the traditional authorities have been consulted: local and regional Cacique and the Regional and General Congress, which guarantees a broad consultation and incorporation of proposals into the project. Although women traditionally perform household activities, they are engaging in decision-making positions and voice their opinions; such is the case of Mrs. Inés Carpintero, the Mayor of the Ñurun district. She is endorsing the project along with the entire municipal team.</p> <p>The direct beneficiaries of this project will be the grassroots organizations, farmers' associations that participate in the proposal, the agricultural educational centers, the farmers who will implement their innovative activities on their farms, the authorities that will have a forum for debate and rapprochement with the communities. These organizations will be in charge of the promotional</p>
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			<p>activities, execution, and commercialization of the wood products generated in the process, the organizations of artisan women and local healers because they will improve the provision of products for their handicrafts. All the economic benefits of the activities proposed by the project must permeate the communities and enhance the provision of resources within this core development cluster that will become the area where the project is developed.</p>
	<p>6. Does the project advance gender equality and the empowerment of women and girls?</p>	<p>Not clear.</p> <p>The proposal states that the consulting process will ensure equal participation of women; however, a description of how this will be carried out is missing.</p> <p>CR13: Please clarify how gender-balance will be achieved during training(s) and knowledge activities.</p> <p>Similarly, within the risk section, it is mentioned that women carry out most artisan activities and that these activities will be considered to improve their income.</p> <p>CR14: Kindly clarify how will income improvement take place. Will there be a shift in the income activities currently developed by women, from artisan activities to agroforestry or work with timber? Have there been any consultations in this regard? What are the views of female beneficiaries regarding this?</p> <p>CAR1: Kindly include an initial gender assessment in line with AF Gender Policies.</p>	<p>CR13. Based on previous assessments and a continuous dialogue with targets groups, we are preparing a gender plan including capacity building and training in subjects relevant to empowering women and girls. In the Comarca, women are usually in charge of household activities, and men perform productive activities such as agriculture; however, the participation of women in handicrafts allows them to empower and contribute to the sustaining of the household. Handicraft making also has let women participate in grassroots organizations. Hence the participation of grassroots organizations led by women is an important starting point to involve women in training to improve handicraft making and other productive activities proposed in this project, such as agroforestry and reforestation with edible forests.</p> <p>Although there are more women than men in the area of the project, women's participation in the initial dialogues has been lower than men's; however, we have observed that participation has increased gradually. As the project advances to the design and implementation stages, we expect to increase women's participation by actively participating in grassroots organizations</p> <p>CR14. The annual income of a traditional farming Ngäbe household in the project area is estimated at 109.00 USD. This is obtained by selling handicrafts and surplus from the farms. This project aims to strengthen the supply of raw materials for handicrafts and improve the productivity of traditional food systems by implementing agroforestry and edible forest systems. Previous consultations with</p>

			<p>community members highlight the importance of recovering and maintaining plant species used for handicrafts and medicinal purposes; similarly, they are interested in improving the productivity of traditional farming systems. Hence the activities proposed do not intend to replace current economic activities or established gender roles, but they want to strengthen local economies and provide viable alternatives. Some suggested actions are improving grassroots organizations, diversifying handicrafts to include wood handicrafts, , and other activities that add value to forest-derived materials.</p> <p>CAR1. A gender assessment will be developed as part of the project document preparation process.</p>
	<p>7. Is the project/programme cost-effective? In the case of regional project/ programmes, does the regional approach support cost effectiveness? Does the project engage, empower and/or benefit the most vulnerable communities and social groups?</p>	<p>Not clear.</p> <p>Although the proposal states that all the ecosystem services put in place will contribute to the cost-effectiveness of the activities; it is difficult to assess it.</p> <p>CR15: Please clarify why and how the project's scope and approach were selected.</p> <p>CR16: Please enumerate what other options were considered in the process of selecting the systems and novel processes described within the project components.</p> <p>Please refer to CR9 and CR11 on disaggregation of target groups.</p>	<p>CR15. Most of the population in the region (about 90% of families) rely on traditional farming for their livelihoods. Traditional practices such as slash and burn were sustainable when the land base to sustain long fallow cycles was available; however, this is no longer the case. These practices are causing soil degradation and are vulnerable to unpredictable weather patterns that ultimately lead to loss of productivity. Community members are aware of these environmental issues and other problems, such as the loss of traditional plants for handicrafts and medicine, deforestation, and soil degradation in the region. That is why the projects aim to improve conventional farming systems with more productive and resilient to climate change agroforestry and the reforestation of degraded land, focusing on producing and rescuing plant species that are valuable for the community. Hence, we expect to provide viable alternatives to address some of the region's ecological issues and provide viable economic activities to bring economic inputs.</p>
	<p>8. Is the project / programme consistent with national or sub-national sustainable development strategies,</p>	<p>Yes.</p> <p>The project is clearly aligned to several strategies.</p>	

	national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?		
	9. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	<p>Not clear.</p> <p>One of the project components is the instalment of a wood processing facility, for which the proponents state that an Environmental Impact Assessment (EIA) will be performed.</p> <p>CR17: Further description is needed on the wood processing facility and the national technical standards that will be required to ensure compliance with the ESP of the Fund.</p> <p>CR18: Please clarify if the EIA will be embedded in the fully developed proposal.</p>	<p>CR17. Based on previous estimations of Pinus caribbean forest stands the wood processing facilities must be able to process at least 10 m³ (or 4000 tablar foot) of timber. Hence the wood processing facilities must have at least a stationary saw machine, a wood drying system, and a system for wood treatment against fungi and other pests.</p> <p>CR18. The installation of a wood processing facility has to comply with norms and national regulations, including the following: an Environmental Impact Assessment (EIA) in compliance with: article 23 of Law 41 of July 1, 1998 (General Environment Law of the Republic of Panama), and Executive decree 123 that provide the norms and procedures for implementing an Environmental Impact Assessment; article 20 of Law 8, which creates the Ministry of the Environment. In addition, the Forestry Law (Law 1 of 1994 and Law 69 of 2018). This activity also must comply with the laws that govern the Ngäbe Buglé Comarca Law 10 of March 7, 1997, and executive decree No. 194 of August 25, 1999. These legal tools aim to prevent and reduce possible environmental and social impacts during the construction and operation of the facility and take corrective actions when necessary. The EIA will be carried out in the execution of the project before the construction of the processing plant.</p>
	10. Is there duplication of project/programme with other funding sources?	<p>Not clear.</p> <p>The proposal does not reference any possible duplication. However, different projects can become a source of duplication. Likewise, the entity can benefit from different initiatives by compiling lessons learned and best practices.</p>	<p>CR19. There is no duplication of projects in the same area. This project focuses on strengthening resilience and adaptation to climate change by improving productive traditional systems and providing viable economic sources of income using sustainable management of current forest stands. The lessons</p>

		<ul style="list-style-type: none"> • The alliance for 1 million reforestation project which is led by the Ministry of Environment, running from 2015 to 2035. • The Agro-Silvopastoral Producers of Pedasí on agroforestry techniques. • The REDD+ program which promotes and strengthens capacities for sustainable forest management and conserving natural forests for the benefit of rural communities. • The group of Sustainable Agriculture Systems (SAS) Volunteers. This group serves in the areas where the project will be implemented—providing trainings on improving agricultural practices. • Project on the potential of agroforestry in Panama by the University of Göttingen. <p>CR19: Please clarify possible duplications and explain further how this proposal builds upon the initiatives mentioned above.</p>	<p>learned and the experiences generated in other projects will be the necessary inputs to guarantee success, allowing us to replicate successful innovative actions.</p>
	<p>11. Does the project/programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Not clear.</p> <p>The proponents stipulate a learning and knowledge sharing component; however, the process on the 'how' it will take place is missing.</p> <p>CR20: Kindly clarify the process of capturing lessons learned during the project's lifetime.</p> <p>CR21: Please describe the knowledge transfer process locally, nation-wide, and regionally.</p> <p>CR22: Please elaborate on how the continuity of the centre for capacity building will be ensured.</p> <p>Developing opportunities for youth engagement and / or other unusual actors can create a space for innovation to flourish. The ideas and concepts underpinning the center could be further elaborated to</p>	<p>CR20- CR21. The learning and knowledge exchange component must include training themes and subjects suited to the reality of the indigenous region where the Project will be developed. These components must be in short training formats with climate change topics, such as resilience and Adaptation to climate change using local technologies and processes. Formal, informal, and non-formal learning modules must be developed that allow us to socialize the innovative experiences that have been developed in the Project. Learning from farmer to farmer and adult learning methods will let us roll out the proposed actions. Creating guides for learning adaptation to climate change at the school level will guarantee that the new generations will be prepared to adapt to the new realities of changing ecological and socio-economic systems.</p>

		<p>clarify how people will be brought together and how their inputs will be used for innovation. This may also be an example of social entrepreneurship, and itself innovative as a change process.</p>	<p>CR22. The project plan to guarantee the success and sustainability of the capacity-building center by training the project's beneficiaries. The participation of community leaders and coordinators is paramount. Considering that the life of the project is three years, but some activities are developed in longer cycles, we plan to create the conditions and knowledge that allow community leaders, both men, and women, to empower themselves so that even when the project ends, they can continue transmitting the knowledge acquired. The participants in the projects must be able to manage the facilities and infrastructure installed by the project and continue the sustainable management of forest plantations.</p>
	<p>12. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not clear.</p> <p>The proposal describes that there have been two consultation processes with local forestry technicians, key stakeholders, and community leaders. However, a clear list of who these key stakeholders are is missing. Likewise, the results of these consultations and the process should be presented. Consultation processes are key to the iteration process of innovation. They help capture people's concerns regarding the project's actions and their suggestions to ensure equal participation and benefits distribution.</p> <p>The current description implies that it is a fairly static information-based process with limited capture of input. Shifting the consultations to a <i>dialogue model</i> would improve the innovation quality of the proposal.</p> <p>CR23: Kindly provide a list of the key stakeholders consulted in the process.</p> <p>CR24: Please describe the process and the results of the discussions during the consultations. What was the vision shared with the participants, and what new ideas did they bring to the table? Did it change the initial idea brought to them?</p>	<p>CR23. following community members participated in open dialogues regarding sustainable forest management:</p> <p>The Director of the School, The President of the Educational Community of the school, the presidents of the local organizations, the presidents of peasant settlements, Cooperatives, the Mayoress of the Nurun district, the justice of the peace of the community, and the presidents of the surrounding communities that have mature community plantations of <i>Pinus caribaea</i>. The objective of these consultations was to know the participants' opinions and willingness to participate in forestry and silviculture activities. First, we did two preliminary meetings; then we met with local, regional authorities and the municipalities; we captured their opinions and suggestions for the project.</p> <p>CR24.</p> <p>The participants are interested in the generation of employment, developing forestry activities, forming and strengthening the community forestry company, food production, and adapting production and marketing systems. The shared vision is to improve the production and management capacity of the area and bring social and economic benefits to the population.</p>

	13. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Not clear.</p> <p>The proposal briefly states the opportunities/benefits derived from the activities that will take place; however, it needs to build on presenting the different scenarios for each component -with and without the funding of the AF. In addition, to clearly identify the target areas and beneficiaries, refer to CR9 and CR11 above.</p> <p>CR25: Please provide a breakdown, in greater detail, of the project components and the two possible scenarios -with and without AF funding.</p>	CR25. Included in Table 4 1.
	14. Is the project / program aligned with AF's results framework?	<p>Not clear.</p> <p>CAR2: Please describe alignment with AF Strategic outcomes in the description of project components. Alignment with outcome 8 (Innovation) is mandatory and all others that might apply.</p>	CAR2. The alignment with the FA results framework included in Table 3.
	15. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Not clear.</p> <p>One of the project's main components is the creation of a wood processing factory; however, no training activity on how to carry out the production is considered. Likewise, details such as the facility's dimensions, employees needed to run it, or possible environmental effects are missing.</p> <p>CR26: Kindly clarify how locals will be trained on the production of products within the wood processing facility and how will the selection of products to be produced be made.</p> <p>CR27: Please clarify how gender balance will be considered within the facility.</p> <p>CR28: Please provide the consultation process with the locals on the installment of a wood processing facility.</p> <p>The proposal further states that this activity will supply the growing demand for timber products in Panama, currently estimated at 80,000 cubic meters of timber annually.</p>	<p>CR26-CR27. Sustainable management of forests and wood processing are novel practices in the region; hence these activities require training and capacity building to ensure their sustainability. The project plans to develop capacity building plans covering the following phases: forest measurement activities, forest inventories, legal procedures to achieve harvesting permits, planning of forest activities by stages, business management, marketing, issues related to the cutting and extraction of wood, use of innovative equipment, management of sawmills, cutting, drying, immunization, and storage of timber. Likewise, other personnel will be trained in cabinetmaking by the National Institute for Capacity Development (INADHE) and other local training institutions. Women will be training in wood crafts and pine products (cones, needles, bark, and others). The training and human development component will guarantee the sustainability of the remaining human resources in the area</p> <p>CR28. Since 2004 the community of Buenos Aires that holds a community forest of 400 ha of Pinus caribaea and other communities whose community forest add to 200 ha have been requesting capacity building and resources to manage mature Pinus</p>

		<p>CR29: Please provide an estimate of how much the facility would produce.</p> <p>CR30: Kindly clarify if a feasibility study will be carried out for the facility.</p>	<p>caribbean stands that are ready for a first cutting cycle. In recent consultations carried out in 2021, forest management is seen as an opportunity to provide jobs and economic inputs to the community. Moreover, the likelihood of pest attacks (Dendroctonus spp), uncontrolled forest fires, or arising conflicts to use the communal forests are justifications for fostering sustainable forest management that the communities can operate and own.</p> <p>CR29. Based on previous estimations of Pinus caribbean forest stands the wood processing facilities must be able to process at least 10 m³ (or 4000 tablar foot) of timber. Hence the wood processing facilities must have at least a stationary saw machine, a wood drying system, and a system for wood treatment against fungi and other pests.</p> <p>CR30. A Feasability study is proposed for the initial assessment in the project.</p>
	16. Does the project /programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Not clear.</p> <p>The proposal enumerates and further describes a number of potential risks and impacts; however, some clarifications are needed.</p> <p>CR31: Related to the principle on compliance with law, there needs to be adequate safeguard measure to ensure that indigenous people's independent law are recognized when implementing intervention. There are five regions, or comarcas in Panama, which are recognized by independent laws and are based on the Indigenous Peoples' constitutional rights.</p> <p>CR32: Related to the principles on access and equity and marginalized and vulnerable groups, please include safeguard measure that would avoid any territorial issues in the region would ensure that marginalized groups are adequately included in consultations.</p>	<p>CR31. The project must comply with the laws that govern the Ngäbe Buglé Comarca Law 10 of March 7, 1997, and executive decree No. 194 of August 25, 1999. In addition to adhering to national laws, the activities of the project will be presented to the Ngäbe Buglé General Congress so that through a resolution of the Congress, the project can be executed with the approval of these traditional authorities.</p> <p>CR32. The consultations continue and the safeguards that avoid any territorial problem in the region will be included. It is ensuring that marginalized groups are adequately included in the consultations that are taking place.</p> <p>CR35. The wood processing facility will produce greenhouse gases that will be mitigated and compensated by reforestation activities. Including the establishment of diverse and productive forest ecosystems.</p>

	<p>CR33: The project is described as having 'low risks in component 2 activities. It is unclear if these are low Access and Equity risks, or low risks generally. If a new process and technology are being rolled out to indigenous communities for the first time, it is expected that there would be medium to high risks for both the rollout and Access and Equity. Please clarify.</p> <p>CR34: Since the project's areas of influence are considered areas of extreme poverty where groups have been marginalized for decades, please justify the risk finding</p> <p>CR35: The principle on Climate Change is triggered related to the activity of the wood processing facility. Please elaborate on how the construction and emissions of the wood processing facility are considered within the risk of greenhouse gas emissions, pollution and resource efficiency, natural habitats and biological conservation. (Principles 9, 10, 11 and 12 under the Environmental and Social Policy of the Adaptation Fund)</p> <p>Currently, no risk is considered in terms of water, soil, and/or environmental contamination; however, this will dependent on the Environmental Impact Assessment (EIA) that would be carried out later in the project.</p> <p>CR36: Given that the project will be implemented in Indigenous territory, please ensure that adequate safeguard measures are in place to ensure compliance with UN Declaration on the Rights of Indigenous Peoples (UNDRIP).</p> <p>CR37: Within the Physical and cultural heritage risk, the proposal mentions that it will help strengthen knowledge and discuss traditional techniques for producing its [local] products. Kindly ensure safeguard measures to ensure that traditional knowledge is protected, preserved and encouraged. It is suggested to refer to the following guidance case studies to complete this section comprehensively.</p>	<p>The wood processing facility will go through an environmental impact assessment labeled as category II: An activity that causes significant environmental impacts on the environment including, water, soil, and atmosphere. Hence proper preventive mitigations actions must in place to comply with the law.</p> <p>CR37. Traditional ecological knowledge is safeguarded by Law 20, of June 26, 2000; special intellectual property regime on the collective rights of indigenous peoples, for the protection and defense of their cultural identity and traditional knowledge, and other provisions.</p>
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		Environmental, Social and Gender Policy case studies: https://www.adaptation-fund.org/document/environmental-social-and-gender-policy-case-studies/	
Resource Availability	1. Is the requested project funding within the parameters for large grants set by the Board?	Yes. The amount requested is USD 4,960,213.13 CAR3: Please avoid the use of decimals on the values and revise the totals accordingly.	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project budget before the fee? Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)? For regional projects/programmes, are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 20 per cent of the total project/programme budget?	Yes. CAR4: Please avoid the use of decimals on the values and revise the totals accordingly.	
Eligibility of IE	1. Is the project submitted through an Implementing Entity accredited by the Board?	<i>(This question will be addressed at final review)</i>	
Implementation Arrangements	1. Are there measures in place for the management of environmental and social risks, in line with the Environmental and Social Policy of the Fund? Proponents are encouraged to refer to the Guidance document for Implementing	n/a at concept stage	

		Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.		
	2.	Are there measures for financial and project/programme risk management	n/a at concept stage	
	3.	Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	4.	Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage	
	5.	Is an explanation and breakdown of the execution cost included?	n/a at concept stage	
	6.	Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage	
	7.	Is the timeframe for the proposed activities adequate?	n/a at concept stage	
	8.	Is a summary breakdown of the budget for the proposed activities included?	n/a at concept stage	
	9.	Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage	

	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage	
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Funding Proposal Template

Application Template for Fully-Developed Proposal and Project Concept Proposal¹



PROGRAMME ON INNOVATION: LARGE GRANTS PROJECTS

REQUEST FOR PROJECT FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared when the request is submitted.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN N7-700
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

¹ **Single Country and Regional Concept proposals should complete Part I and Part II of the Project Proposal Template.**



ADAPTATION FUND

SINGLE COUNTRY/ REGIONAL INNOVATION PROJECT/PROGRAMME PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Applying traditional ecological knowledge to agroforestry and silviculture as natural base solutions to increase resilience to climate change in the Ngäbe-Bugle and Veraguas territory in the Republic of Panama.

Country/ Countries: Panamá

Thematic Focal Area²: Nature- based solutions and ecosystem-based adaptation

Type of Implementing Entity: NIE

Implementing Entity: Fundación NATURA

Executing Entities: Ministerio de Ambiente

Amount of Financing Requested: 4,960,213.43-00 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve, including both the regional and the country perspective. Outline the economic social, development and environmental context in which the project would operate in those countries.

Describe the problem the proposed project/programme is aiming to solve. Write this as a concise problem statement: The current situation, the desired future, and the gap between the two. Provide brief further information on the current situation including both the regional and the country perspective. Outline the economic social, development and environmental context in which the project would operate in those countries. Describe the climate change vulnerabilities impacting the country/region as well clearly explain the problem area that would be the focus of the innovation.

² Thematic areas are: Agriculture, Coastal Zone Management, Disaster risk reduction, Food security, Forests, Human health, Innovative climate finance, Marine and Fisheries, Nature-based solutions and ecosystem based adaptation, Protection and enhancement of cultural heritage, Social innovation, Rural development, Urban adaptation, Water management, Wildfire Management.

The Ngäbe-Bugle and Veraguas territory in the northeast region of Panama is a highly marginalized region with scarce opportunities for economic income, and the livelihoods of the indigenous people living in this area rely mostly on slash and burn agriculture. Climate change is causing shifts in the onset of rain, longer dry seasons, and more severe storms, decreasing the agricultural systems' productivity and causing complete loss of crops.

Hence the primary goal of this project is to provide local development opportunities and increase resilience to climate change. The project proposes establishing improved agroforestry systems, reforestation of degraded lands with locally adapted species, and adding value to timber and non-timber products. This project includes a capacity building and training component which aims to foster the adaptability of the proposed practices. This project will be implemented in the upper and middle Tabasara watershed located in the Pacific West region in Panamá (Figure 1. Area of project implementation). Administratively this region belongs to Las Palmas and Cañazas districts in the province of Veraguas and the districts of Nurun and Muna in the Ngäbe Buglé Comarca.

This region faces climate change phenomena that increase the vulnerability of socio-economic and natural ecosystems. Severe storms and hurricanes have led to the loss of traditional crops

3

, and the agricultural sector is highly vulnerable to climate change according to the national vulnerability map²³⁴. Severe storms also negatively impact existing infrastructure and social services. In 2021 landslides blocked the region's main access points, causing the suspension of health and educational services⁵.

Most of the population in the region (about 90% of families) rely on traditional farming for their livelihoods. Traditional practices such as slash and burn were sustainable when the land base to sustain long fallow cycles was available; however, this is no longer the case. These practices are causing soil degradation and are vulnerable to unpredictable weather patterns that ultimately lead to loss of productivity. Community members are aware of these environmental issues and other problems, such as the loss of traditional plants for handicrafts and medicine, deforestation, and soil degradation in the region. That is why the projects aim to improve conventional farming systems with more productive and resilient to climate change agroforestry and the reforestation of degraded land, focusing on producing and rescuing plant species that are valuable for the community. Hence, we expect to provide viable alternatives to address some of the region's ecological issues and provide viable economic activities to bring economic inputs.

This innovative program aims to build a process of integrating traditional ecological knowledge and nature-based solutions to improve production systems that are no longer sustainable due to the pressure on the land base and to the effects of climate change. In addition, the program proposes the development of models for sustainable forest management, including the

³ <https://weather.com/news/news/2020-11-17-hurricane-iota-impacts-nicaragua-colombia-honduras-central-america>

⁴ [PB Panamá Old.pdf \(cgiar.org\)](#)

⁵ https://www.tvn-2.com/nacionales/Suspenden-escuelas-comarca-deslizamientos-Ngäbe-Bugle_0_5969403034.html

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reconversion of less diverse exotic Pinus caribea plantations to a more productive and diverse forest ecosystem that can be more resilient to climate change. This project also has a capacity-building component allowing the program's sustainability and knowledge sharing. This project will produce new knowledge and experiences that can be scaled up at the regional, national, and international levels.

Aplicación de los Conocimientos Ecológicos Tradicionales a la Agroforestería y la Silvicultura como Soluciones Basada en la Naturaleza para Aumentar la Resiliencia al Cambio Climático el Territorio Ngäbe-Buglé y Veraguas en la República de Panamá.

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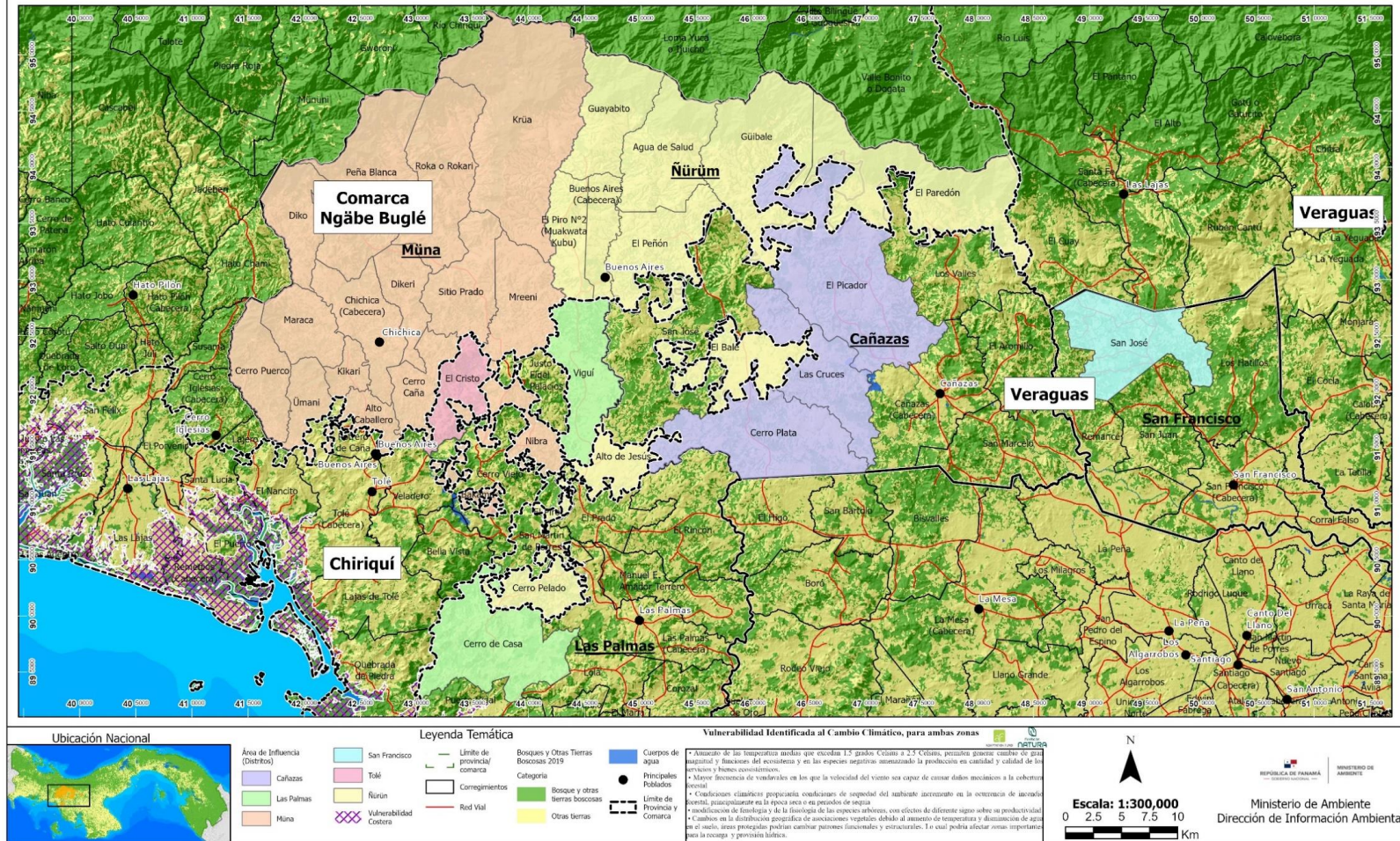


Figure 1. Area of project implementation

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Project / Programme Objectives:

List the main objectives of the project/programme.

The main goals of this program are to generate innovative solutions to improve traditional production systems by integrating practices and knowledge of indigenous peoples with nature-based solutions to strengthen the resilience of their livelihoods. The project will produce new knowledge and experience in managing and converting Pinus caribaea stands into a more diverse and productive forest ecosystem. The project will guarantee gender participation in the production processes and the distribution of benefits. The experiences, lessons learned, and derived knowledge will be key for scaling and replicating other geographies.

Specific goals of the program

- ✓ Strengthen the resilience of livelihoods for food security of beneficiary communities incorporating traditional knowledge, diversification, and nature-based solutions.
- ✓ Promote actions to recover degraded areas and develop a sustainable forest use model and reconversion of exotic Pinus caribaea stands to more diverse and productive forest ecosystem as scalable and replicable adaptation models.
- ✓ Strengthen knowledge management through strengthening community organization, capacity building, systematization, and disseminating experiences and lessons learned.

The main goal of this project is to increase resilience to climate change in vulnerable indigenous communities by increasing the resilience of traditional agricultural systems and providing opportunities to obtain economic inputs with locally proven technologies.

Specific goals

- ~~○ To assess traditional ecological knowledge to improve agroforestry and silvicultural models.~~
- ~~○ To develop and implement novel agroforestry and silvicultural models as means to increase resilience to climate change and foster food security.~~
- ~~○ To install a wood processing facility to add value to raw materials and produce economic inputs.~~
- ~~○ To achieve capacity building in novel agroforestry and silviculture models as means to adapt to climate change.~~

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Project / Programme Components and Financing:

Fill in the table presenting the relationships among project components, outcomes, outputs, and countries in which activities would be executed, and the corresponding budgets.

For the case of a programme, individual components are likely to refer to specific sub-sets of stakeholders, regions and/or sectors that can be addressed through a set of well-defined interventions / projects.

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Developed recovery processes for degraded areas of	1.1 Increased the resilience of livelihoods by integrating traditional	1.1.1 Systematize traditional practices and knowledge about locally adapted productive systems.	Panama	20,000.00

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Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
high value for conservation and resilience to the effects of climate change.	ecological knowledge and traditional production practices with nature-based solutions.	including collecting seeds and plants resistant to pests and climatic variability.		
		1.1.2 Development of five productive community models as pilots (backyard production) in each district, allowing the inclusion of traditional ecological knowledge and practices as an ecosystem-based adaptation model.	Panama	650,000.00
		1.1.3 Development of at least one pilot of a diversified productive system in each district, taking into account local potentialities and opportunities, using efficient and low-cost technologies, and facilitating gender participation in the production process and distribution of benefits.	Panama	250,000.00
		1.1.4 Install a water harvesting system with efficient and low-cost technology that contributes to the sustainability of livelihoods.	Panama	150,000.00
		1.1.5 Develop training and knowledge exchange actions for beneficiaries on the field.	Panama	25,000.00
	1.2 Developed business plans and developed a value chain for products with high market potential, allowing gender inclusion.	1.2.1 o Development of business plans for products with market potential	Panama	50,000.00
		1.2.2 Implement strategic investments that allow the Development of value chains with gender participation.	Panama	20,000.00
		1.2.3 Document the experiences and lessons learned, emphasizing innovative elements that drive changes allowing the scaling or replicating the experiences generated.	Panama	10,000.00
2. Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change	2.1 Preparation of studies and tools that facilitate the development of proposed actions to recover degraded and vulnerable areas.	2.1.1 Climate change vulnerability and adaptation plan prepared and implemented with gender considerations	Panama	50,000.00
		2.1.2 Determination of areas with high potential for land recovery using land-use change analysis	Panama	50,000.00
		2.1.3 Preparation of an action plan to recover degraded areas with gender inclusion	Panama	20,000.00
		2.1.4 Development of actions for installing local nurseries and reforestation of prioritized areas, under the concept of edible forests.	Panama	1,200,000.00
	2.2 Establishment of enabling conditions for the development of models of forest use and recovery of forests.	Preparation of the Sustainable Forest Management and Use Plan	Panama	50,000.00
		Elaboration of an environmental impact study for forest exploitation	Panama	30,000.00

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Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
		and wood processing		
		Preparation of the environmental management plan (PAMA).	Panama	15,000.00
	2.3 Development of actions for the use and conversion of timber products	2.3.1 Multipurpose training center built: Installation of wood processing area (sawmill) and carpentry workshop and capacity area.	Panama	1,200,000.00
		2.3.2 Preparation and implementation of a business plan with gender considerations	Panama	25,000.00
	2.4 Environmental, social and economic evaluation of forest plantation, conversion models and systematization of experiences	2.4.1 Development of an evaluation study and economic valuation of the conversion of the pine forest plantation towards two different recovery models (assisted: edible forest) and natural recovery (pine and natural regeneration).	Panama	50,000.00
		2.4.2 Document experiences and lessons learned with an emphasis on innovative elements that drive changes that allow scaling or replicating the experiences generated	Panama	10,000.00
3. Improved local capacities through capacity building and knowledge management	3.1 Strengthen the capacity of key stakeholders and improve knowledge on climate adaptation and resilience at the local.	3.1.1 Strengthened the capacity of beneficiaries, local authorities, and other key actors on ecosystems-based adaptation to improve the resilience of livelihoods and sustainable forest use and its transformation into higher value by-products	Panama	50,000.00
		3.1.2 Improved community organization and strengthened their business management skills for a better quality of life.	Panama	80,000.00
		3.1.3 Systematized and shared the experiences generated by the project through training actions, exchange of experiences, and systematization of experiences and lessons learned and their dissemination	Panama	120,000.00
	3.2 Platform for monitoring and evaluation on indigenous communities improved	3.2.1 Strengthening the platform for monitoring and evaluation on indigenous communities		60,000.00
Total Direct Cost				4,175,000
4. Project Execution cost (9.5%)				396,625
5. Total Project Cost				4,571,625
6. Project Cycle Management Fee charged by the Implementing Entity (8.5%)				388,588
Amount of Financing Requested				4,960,213

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Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Design of improved agroforestry and silvicultural models based on traditional ecological knowledge	1.1 Innovative agroforestry, and silvicultural systems designed.	1.1.1 Assessment of traditional ecological knowledge and value chains to improve agroforestry and silvicultural systems	Panamá	50,000.00
	1.2 Forest management strengthened by applying innovative agroforestry and silvicultural systems	1.2.1 Design a forestry management plan	Panamá	40,000.00
		1.2.2 Market feasibility study for processed wood products	Panamá	25,000.00
		1.2.3 Market study for an eco-culture project	Panamá	50,000.00
	1.3 Vulnerability and adaptation plan to climate change with gender considerations completed	1.3.1 Vulnerability and adaptation plan	Panamá	25,000.00
		1.3.2 Preparation of a development plan with gender considerations	Panamá	25,000.00
2. Implementation of novel agroforestry and silvicultural models	2.1 Sustainability of traditional livelihoods improved, and enhanced adaptation to climate change using innovative agroforestry and forest management.	2.1.1 Installation of demonstrative plots for food security and medicinal purposes	Panamá	400,000.00
		2.1.2 Plantation of improved agroforestry systems	Panamá	900,000.00
		2.1.3 Reforestation with locally adapted valuable timber species	Panamá	1,170,000.00
		2.1.4 Installation of a facility for wood processing	Panamá	515,000.00
3. Capacity building in novel agroforestry and silviculture models to adapt to climate change	3.1 Knowledge about innovative solutions to adapt to climate change is acquired by youth and key stakeholders	3.1.1 Center for capacity building in novel agroforestry and silviculture models	Panamá	700,000.00
		3.1.2 Curriculum for capacity building to youth and key stakeholders in climate change and forestry	Panamá	50,000.00
	3.2 Knowledge and lessons learned shared between indigenous people of Central America and Panama	3.2.1 Sharing of knowledge and lessons learned between indigenous people of Central America and Panama	Panamá	65,000.00
	3.3 Platform for monitoring and evaluation on indigenous communities improved	3.3.1 Strengthening the platform for monitoring and evaluation on indigenous communities	Panamá	60,000.00

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
	3.4 Grassroots organizations engage in social entrepreneurship producing new sources of economic income	3.4.1 Fostering social entrepreneurship based on agroforestry, silviculture, and industrialization of derived wood products		100,000.00
4. Project Execution cost (9.5%)				396,625.00
5. Total Project Cost				4,571,625.00
6. Project Cycle Management Fee charged by the Implementing Entity (8.5%)				388,588.13
Amount of Financing Requested				4,960,213.13

Projected Calendar:

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

Milestones	Expected Dates
Start of Project/Programme Implementation	November 2022 (pc)
Project/Programme Closing	October 2025 (of)
Terminal Evaluation	August 2025 (e)

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project / programme components, particularly focusing on the concrete adaptation activities, how these activities would contribute to climate resilience. For regional projects describe also how they would build added value through the regional approach, compared to implementing similar activities in each country individually. For the case of a programme, show how the combination of individual projects would contribute to the overall increase in resilience.

A.

Innovative agroforestry systems will be developed based on previous experiences, as well as an assessment of traditional ecological knowledge. The use of a variety of locally adapted plant species can provide resilience to climate change-related phenomena such as droughts, atypical storms, as well as pests and disease outbreaks.

This agroforestry will provide both environmental and economic benefits since it is intended to replace slash and burn practices and reduce related forest fires. Moreover, it will contain a variety of plant species that provide food, fiber, medicine, wood, and profitable crops such as coffee and cocoa.

Reforestation with locally adapted species is aimed at ecological restoration of degraded lands and production of wood materials. The intended area for reforestation has experienced desertification processes in the last decades; hence the project aims to scale proven ecological restoration initiatives with locally adapted species. The reforested area will turn into ecological corridors and will provide ecosystem services such as water supply and valuable wood products.

Currently, shrublands and forested areas are turning into grasslands for cattle since this is a more profitable activity; hence the project wants to provide alternatives by installing a wood processing facility and producing economic inputs by adding value to forest-derived raw materials. This action, along with a forest management plan, will provide sustainable economic activities to the local population.

Capacity building is a key component to ensure the sustainability of the proposed actions; hence the project is planning to build a center for training and capacity building in agroforestry, silviculture, and locally developed technologies to increase resilience to climate change. This center will play a key role in knowledge sharing within the area of the project as well as at the national and international scale. The program has the following components:

1. Increased livelihoods' resilience by integrating traditional practices and nature-based solutions.

This component wants to build a process through productive models that are replicable and scalable in this area and promote the construction of capacities of the beneficiaries to adapt traditional production systems to sustainable nature-based production models that can provide productive diversification and can increase the resilience of their livelihoods and provide food security. The project will promote the establishment of agroforestry systems with locally adapted species of high value as timber and non-timber products on degraded lands. By applying nature-based solutions and incorporating innovative and low-cost technologies, productivity is expected to increase. Productive diversification, improvement in the use of timber and non-timber forest products, and the development of the value chain for these products will open up opportunities for incorporating gender into production processes, which is a critical factor in improving the quality of life for these families.

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2. Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change.

This component proposes the sustainable forest management of 600 ha of Pinus caribaea, including logging planning, an environmental impact assessment (category II, according to current norms and laws), and an environmental management plan.

Under this model, the project proposes two types of forest management:

- Reconversion of the first 10 ha by clearcutting the Pinus caribaea stands and its reconversion towards a more biodiverse and productive model of an edible forest. This action will be implemented in areas with high ecological values (water catchment).

- Logging of Pinus caribaea stands under sustainable forest management by rotational logging. Initially, the logging will be performed in two plots of 20 ha each. The complete forest management plan is composed of 30 plots (20 ha each plot).

Both models would be implemented with the participation of the community owners. The management plan will include the transformation of wood to valuable products with gender participation both in production processes and the distribution of benefits. Capacity building and training of beneficiaries is included in the management plans. The project also plans strategic investments in tools, equipment, and basic conditioning for the transformation of wood.

3. Improved local capacities through capacity building and knowledge management.

This component includes processes of organization and capacity building of beneficiaries and other key actors to give sustainability to the proposed actions in the project and to systematize and share the experiences and lessons learned. The innovations presented and the new knowledge and practices could be key elements to increase resilience and adaptation to climate change and could be key for scaling and replicating in other geographies.

The activities proposed in this project will help improve water management in several ways. Ecological restoration of degraded lands and riparian zones will help water catchment and storage. Some reforestation will take place in previously grassed areas hence improving water sequestration and storage in these areas.

Agroforestry uses water more efficiently because it has a diversity of plant species, and the soil is permanently protected. Agroforestry systems are intended to replace traditional slash and burn practices that have a low water catchment capacity during the cropping season.

The wood processing facility will be connected to existing water facilities, and it will not cause major disruptions in the current water systems. The category of environmental impact assessment on water bodies of this facility is "category II," meaning that it will have significant environmental impacts and can be mitigated with preventive actions (see environmental impact assessment section).

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B. Describe how the project /programme would promote new and innovative solutions to climate change adaptation, such as new approaches, technologies, and mechanisms.

Agroforestry, silvicultural, and food security innovations are based on traditional ecological knowledge. The project intends to use drought-resistant species and manage a diversity of plants within the agroforestry systems as technologies to build resilience to climate change. Novel agroforestry systems will be alternatives to more vulnerable to climate change slash and burn practices.

Diversifying economic income by generating added value in timber and non-timber products will diversify household agriculture, creating jobs and improving local economies. These activities along the construction of a capacity-building center will increase knowledge on climate change, emphasizing adaptation and resilience with agroforestry and silvicultural technologies.

The innovative adaptation solution proposed by the project is to develop holistic models of backyard production systems that incorporate key elements of traditional methods and nature-based solutions (climate-smart agriculture) that contribute to the eradication of unsustainable slash and burn practices. This is associated with organization and community capacity building with a vision of productive diversification, development of value chains, gender inclusion in production processes and distribution of benefits, and access to fair markets for the products.

The innovative element of the recovery of degraded lands and sustainable management of forest is to have pilot plots that allow evaluating the best economic and ecological benefit with climatic considerations to scale them throughout the area and replicate them in other parts of the country. Moreover, sustainable management of forests is a novel activity in the region because so far, the focus in the Comarca Ngöbe Bugle has been toward conservation. Specific activities such as reforestation will allow the ecological restoration of degraded lands, and reforestation of riparian areas will provide water catchment and water reservoirs.

Diversifying economic income by generating added value in timber and non-timber products will diversify household agriculture, creating jobs and improving local economies. These activities along the construction of a capacity-building center will increase knowledge on climate change, emphasizing adaptation and resilience with agroforestry and silvicultural technologies.

Traditional farmers have created and modified over time the environment that surrounds them by establishing agricultural systems and techniques that have allowed them to adapt to the environmental, social, and economic changes that threaten the livelihood of their families and communities⁶. By implementing an initial assessment of traditional ecological knowledge in the region, the project attempts to capture practices that help to adapt agricultural systems to the adverse effects of climate change. Some of these practices include the use of a variety of species in the cropping systems, traditional knowledge about soil properties and management, and other practices that can help to strengthen agroforestry systems and increase resilience to climate change.

Traditional knowledge of the Ngöbe Bugle people includes the use of indicator plant species to identify the most fertile lands to establish traditional crops under slash and burn practices. The traditional system of the patio "back yard agriculture" or "Nura jduibore" is a diversified productive system that includes fruit, medicinal, artisanal plants species, and small farm animals.

The main agriculture technology to be implemented will be the improved agroforestry system that uses scientific ecological knowledge from technicians of the ministry of the environment and the traditional ecological knowledge of the Ngöbe Bugle.

This novel system will be initially established as demonstrative plots that can function as

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⁶ [Sistemas Ingeniosos del Patrimonio Agrícola Mundial \(fao.org\)](http://SistemasIngeniososdelPatrimonioAgricolaMundial(fao.org))

"farmer field school". Using this learning methodology, a group meets regularly during a production cycle, setting up experimentation and engaging in hands-on learning to improve skills and knowledge that will help adapt practices to their specific context⁷.

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To implement the initial assessment, we will use qualitative methodologies such as guided interviews and participatory processes. The interviews will be applied to a representative sample of farmers from the area of the project. The results from this previous assessment will be validated and improved in groups discussions; the results will also be triangulated with published sources.

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This assessment is expected to capture knowledge and practices that use natural resources more efficiently (water and soil nutrients) and guarantee food security by providing a stable source of food and other products.

Evaluation of traditional ecological knowledge is one of the first expected outputs of the program; hence is one of the first activities to be implemented in this project.

The agroforestry and sustainable management of forests activities were selected because they provide multiple ecological and economic benefits hence helping communities adapt to climate change. Moreover, these activities are being proposed and developed in a participatory manner with community leaders, community-based organizations, and traditional assemblies. This is evidenced in the attached supporting materials (Annex 2).

Agroforestry is a novel approach to food production in the region, and the proposed system will bring together scientific ecological knowledge from technicians of the ministry of the environment and the traditional ecological knowledge of the Nogbe Bugle. This agroforestry will provide both environmental and economic benefits. It is an alternative to slash and burn practices and reduces related forest fires. Trees in the system will mitigate climate change by sequestering carbon in the biomass and soil. Moreover, it will contain a variety of plant species that provide food, fiber, medicine, wood, and profitable crops such as coffee and cocoa.

The assessment of traditional ecological knowledge wants to capture and recover knowledge and practices that can be used to inform the design of novel agroforestry systems. Some of these practices include the use of a variety of species in cropping systems; some of these species might exhibit drought resistance characteristics; similarly, traditional knowledge about local soil properties such as fertility and suitability for different cropping systems might inform the design of locally adapted agroforestry systems.

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C. Describe how the project/programme aims to roll out successful innovative adaptation practices, tools, and technologies and/or describe how the project aims to scale up viable innovative adaptation practices, tools, and technologies.

Sustainable forestry management and wood processing have been successfully implemented in other areas in Panama. However, this is the first time such activities will be implemented on indigenous territory. This is highly relevant because traditionally forested areas are being displaced by more profitable grazing livestock due to the lack of sources of economic income. In this project we are proposing to develop two models for the sustainable management of current *Pinus caribaea* stands one with clearcutting and reforestation with a more diverse and

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⁷ [Climate Change | Global Farmer Field School Platform | Food and Agriculture Organization of the United Nations \(fao.org\)](#)

productive forest ecosystem (edible forests) and one with rotational logging. Successful models and lessons learned in the process will be scale up to other areas of the country with similar ecological conditions.

Derived wood products are considered carbon sinks, hence mitigating climate change. Moreover, wood products are also ecologically more efficient than other materials and have highly recyclable properties that are less energy-intensive⁸. As part of sustainable forest management, the project wants to install a wood processing facility and produce economic inputs by adding value to forest-derived raw materials. This facility will provide sustainable economic activities to the local population.

The wood processing facility will allow the sustainable management of 600 ha of Pinus caribaea stands in the corregimiento of Buenos Aires, district of Nūrun in the Comarca Ngäbe Buglé. These forest stands were planted and maintained by the community, and they have reached the first cutting cycle. Now the community members want to learn how to use their forest resources wisely and obtain economic benefits. Hence the project proposes selective logging of current Pinus caribaea stands and shifts the current forest to a more diverse ecosystem.

Currently, these forests stands are dominated by the exotic species Pinus caribaea, and this project wants to restore this forest to a more diverse and productive ecosystem such as an "Edible forest". This edible forest will provide multiple benefits such as valuable wood products, food, medicine, fibers, and other materials for handicrafts.

Previous consultations highlight the willingness of community members to participate in the capacity building processes: including sustainable management of current Pinus caribaea stands, reforestation activities with more diverse and productive ecosystem "Edible forests", and wood processing technologies to add economic value to timber products. The capacity-building process will be guided by the technicians of the ministry of the environment.

This project will scale locally proven ecological restoration initiatives. Reforestation with locally adapted species has been successfully implemented to recover degraded areas in the region. This project aims to scale ecological restoration to areas experiencing desertification processes in the last decades. One innovation in this reforestation is establish "edible forests" and to obtain multiple benefits from the forests such as wood products, food, medicine and fibers. This novel model of reforestation will be rolled out to other areas of the region and the country that face similar problems of soil degradation.

The center for capacity-building will allow to scale up successfully developed agroforestry and silviculture technologies. The capacity-building component in this project is also designing a curriculum to engage youth and key stakeholders in climate change topics and training in technologies to increase resilience to climate change. The project plans to share knowledge and lessons learned with other indigenous populations in Panama and Central America.

⁸ OV mei '07 (europanel.org)

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

This project will be implemented in the upper and middle Tabasara watershed located in the pacific west region in Panamá. Administratively this region belongs to Las Palmas (communities of Cerro de casa, and Vigui) and Cañazas (communities of Picador, Las Cruces, and San Jose) districts in the province of Veraguas and the districts of Nurun (Communities of Agua de Salud, Alto de Jesus, Cerro Pelado, El Paredon, El Piro Numero 2), and Muna (communities of Alto Caballero, Cerro Caña, Nibra, Sitio Prado) in the Ngäbe Buglé Comarca.

The target group are the indigenous Ngäbe and Buglé people located in the Ngäbe Buglé Comarca, and traditional farmers located in the province of Veraguas. Both targets' groups are located in the Tabasara watershed, one of the most important basins in the western region of the country. The estimated population in this area is about 19, 127 men and 18, 081 women.

Based on previous assessments and a continuous dialogue with targets groups, we are preparing a gender plan including capacity building and training in subjects relevant to empowering women and girls. In the Comarca, women are usually in charge of household activities and participate in agriculture, and men perform productive activities such as agriculture; however, the participation of women in handicrafts allows them to empower and contribute to the sustaining of the household. Handicraft making also has let women participate in grassroots organizations. Hence the participation of grassroots organizations led by women is an important starting point to involve women in training to improve handicraft making and other productive activities proposed in this project, such as agroforestry and reforestation with edible forests.

Although there are more women than men in the area of the project, women's participation in the initial dialogues has been lower than men's; however, we have observed that participation has increased gradually. As the project advances to the design and implementation stages, we expect to increase women's participation by actively participating in grassroots organizations.

The annual income of a traditional farming Ngäbe household in the project area is estimated at 109.00 USD. This is obtained by selling handicrafts and surplus from the farms. This project aims to strengthen the supply of raw materials for handicrafts and improve the productivity of traditional food systems by implementing agroforestry and edible forest systems. Previous consultations with community members highlight the importance of recovering and maintaining plant species used for handicrafts and medicinal purposes; similarly, they are interested in improving the productivity of traditional farming systems. Hence the activities proposed do not intend to replace current economic activities or established gender roles, but they want to strengthen local economies and provide viable alternatives. Some suggested actions are improving grassroots organizations, diversifying handicrafts to include wood handicrafts, charcoal production, and other activities that add value to forest-derived materials.

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E. The direct beneficiaries of this project will be the grassroots organizations, farmers' associations that participate in the proposal, the agricultural educational centers, the farmers who will implement their innovative activities on their farms, the authorities that will have a forum for debate and rapprochement with the communities. These organizations will be in charge of the promotional activities, execution, and commercialization of the wood products generated in the process, the organizations of artisan women and local healers because they will improve the provision of products for their handicrafts. All the economic benefits of the activities proposed by the project must permeate the communities and enhance the provision of resources within this core development cluster that will become the area where the project is developed. This project will provide direct and indirect economic benefits to indigenous people in the Ngäbe-Bugle and Veraguas territory. Agroforestry systems will contain a variety of plant species that provide food, fiber, medicine, wood, and profitable crops such as coffee and cocoa.

Reforestation with locally adapted species will turn into ecological corridors and provide ecosystem services such as water supply and valuable wood products. Moreover, a forest management plan, including installing a timber processing facility, will provide sustainable economic activities to the local population.

The center for capacity-building will provide training in appropriate technologies for climate change adaptation will provide a space for youth to receive training in climate change and social entrepreneurship.

The construction of a center for capacity-building and the installation of a timber processing facility will require an Environmental Impact Assessment, performed according to national guidelines.

Ongoing consultations processes, following local norms and procedures, will help mitigate possible negative social impacts of the project. These consultations capture people's concerns regarding the project's actions and their suggestions to ensure equal participation and benefits distribution.

F.E. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme and explain how the regional approach would support cost-effectiveness.

Most of the population in the region (about 90% of families) rely on traditional farming for their livelihoods. Traditional practices such as slash and burn were sustainable when the land base to sustain long fallow cycles was available; however, this is no longer the case. These practices are causing soil degradation and are vulnerable to unpredictable weather patterns that ultimately lead to loss of productivity. Community members are aware of these environmental issues and other problems, such as the loss of traditional plants for handicrafts and medicine, deforestation, and soil degradation in the region. That is why the projects aim to improve conventional farming systems with more productive and resilient to climate change agroforestry and the reforestation of degraded land, focusing on producing and rescuing plant species that are valuable for the community. Hence, we expect to provide viable alternatives to address some of the region's ecological issues and provide viable economic activities to bring economic inputs.

Agroforestry systems will provide multiple environmental and economic benefits, including food, fiber, medicinal plants, natural inks; it will include profitable crops such as coffee and cocoa and valuable timber and non-timber materials. All these ecosystem services will contribute to the cost-effectiveness of the activity. Reforestation activities will provide valuable environmental services such as ecological restoration of degraded soils and water catchment, and valuable timber species will provide raw materials for post-processing.

The sustainable forest management plan that includes logging and wood processing will supply the growing demand for timber products in Panama, currently estimated at 80 000 cubic meters of timber annually. Preliminary estimations report a volume of 78, 000 m³ of timber derived from Pinus caribean stands that can be harvest during 10 years. The current price for cubic meter of board feet is about 350 to 700 usd. Hence this activity will be a cost-effective and profitably activity since the growing demand for wood in the Country. Reforestation activities will provide valuable environmental services such as ecological restoration of degraded soils and water catchment, and valuable timber species will provide raw materials for post-processing.

This activity will supply the growing demand for timber products in Panama, currently estimated at 80 000 cubic meters of timber annually. Hence this activity will be cost-effective since there is

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a demand for wood in the Country:

The construction cost of a wood processing facility is expected to be rapidly amortized because this facility initially will offer wood processing capabilities and use timber derived from current forest stands in the region; hence this is expected to be a profitable activity both in the short and long term.

G.F. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, ornational adaptation programs of action, or other relevant instruments, where they exist.If applicable, please refer to relevant regional plans and strategies where they exist.

Actions such as establishing agroforestry systems and reforestation of degraded lands contribute to the goals of the Nationally Determined Contributions of the AFOLU sector. These actions also contribute to the goals of the following strategies and national programs: National Program on Forest Restoration; National Plan for Sustainable Forestry Development; Forestry Strategy for Planning and Management of Soils; and Decree No. 135 that dictates the norms for Adaptation to Climate Change in the Republic of Panama.

Actions such as revaluing traditional ecological knowledge and producing economic inputs from forest products are consistent with the National Development Program (Programa Especial de Gobierno 2019-2024). This program aims to address social inequity and poverty in indigenous communities by revaluing local culture and knowledge and fostering sustainable agricultural practices for food security.

The use of locally adapted agroforestry systems is also consistent with local plans for natural resource management, water, and soil conservation⁹.

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

Based on previous estimations of Pinus caribbean forest stands the wood processing facilities must be able to process at least 10 m³ (or 4000 tablar foot) of timber. Hence the wood processing facilities must have at least a stationary saw machine, a wood drying system, and a system for wood treatment against fungi and other pests.

The installation of a wood processing facility has to comply with norms and national regulations, including the following: an Environmental Impact Assessment (EIA) in compliance with: article 23 of Law 41 of July 1, 1998 (General Environment Law of the Republic of Panama), and Executive decree 123 that provide the norms and procedures for implementing an Environmental Impact Assessment: article 20 of Law 8, which creates the Ministry of the Environment. In addition, the Forestry Law (Law 1 of 1994 and Law 69 of

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⁹ Plan Estratégico Distrital de Cañazas (2018-2022).

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This activity also must comply with the laws that govern the Ngäbe Buglé Comarca Law 10 of March 7, 1997, and executive decree No. 194 of August 25, 1999. These legal tools aim to prevent and reduce possible environmental and social impacts during the construction and operation of the facility and take corrective actions when necessary.

Construction activities will comply with national environmental impact assessments norms, including Decree 123, Environmental Impact Assessment; Ley 41, Environmental Law; Ley 7, Civil Protection.

Agroforestry and reforestation activities will be based on management plans that include a chapter on environmental mitigations actions according to decree 129: Forest Management Plans.

Consultations processes regarding activities and actions proposed by the project are performed based on the following norms and procedures relevant to the indigenous communities: Lay 10 from march 7, 1997; Executive Decree No. 194, Comarca Ngäbe Bugle Constituency.

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

There is no duplication of projects in the same area. This project focuses on strengthening resilience and adaptation to climate change by improving productive traditional systems and providing viable economic sources of income using sustainable management of current forest stands. The lessons learned and the experiences generated in other projects will be the necessary inputs to guarantee success, allowing us to replicate successful innovative actions.

The Ministry of the Environment will provide technical capabilities and logistic support for the project activities. Likewise, beneficiary communities will provide logistics support for consultations and training processes. Direct beneficiaries of the project will contribute with labor to develop the project activities.

J.I. Describe the learning and knowledge management component to capture and disseminate lessons learned.

This project will generate knowledge about climate change, the influence on the availability of water and food, among others, agroforestry and silvicultural management. This knowledge and the lessons learned from the project will be disseminated locally and regionally. For this task, the capacity development center plays a key role, as it will provide training facilities.

The trainings will be carried out by local technicians with experience in development projects in indigenous communities. When possible, the project will have technicians who can speak the local language.

The learning and knowledge exchange component must include training themes and subjects suited to the reality of the indigenous region where the Project will be developed. These components must be in short training formats with climate change topics, such as resilience and Adaptation to climate change using local technologies and processes. Formal, informal, and non-

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formal learning modules must be developed that allow us to socialize the innovative experiences that have been developed in the Project. Learning from farmer to farmer and adult learning methods will let us roll out the proposed actions. Creating guides for learning adaptation to climate change at the school level will guarantee that the new generations will be prepared to adapt to the new realities of changing ecological and socio-economic systems.

The project plan to guarantee the success and sustainability of the capacity-building center by training the project's beneficiaries. The participation of community leaders and coordinators is paramount. Considering that the life of the project is three years, but some activities are developed in longer cycles, we plan to create the conditions and knowledge that allow community leaders, both men, and women, to empower themselves so that even when the project ends, they can continue transmitting the knowledge acquired. The participants in the projects must be able to manage the facilities and infrastructure installed by the project and continue the sustainable management of forest plantations.

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³Plan Estratégico Distrital de Cañazas (2018-2022)

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

To date, there have been two previous consultations processes with local forestry technicians, key stakeholders, and community leaders (See attached evidence). This consultation process will continue during the project preparation. Key stakeholders, community leaders, and local government bodies will be consulted regarding the actions proposed by the project. Consulting processes will be implemented following local procedures, community norms and ensuring the equal participation of women. At the national level, the actions of the project will be consulted with the Vice ministry for Indigenous Issues and the National Coordination for Indigenous People.

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Community members have participated in the development of this proposal since the beginning. The MiAMBIENTE Regional Directorate in the Ngäbe Buglé Comarca, led by Ing. Narciso González, a Ngäbe citizen, and his team, who are all Ngäbes and Bugles, have been actively involved in developing and moving forward this proposal. They have talked to community leaders, presidents of community organizations, administrative authorities, and traditional authorities regarding the actions proposed in the project. The consultations carried out established the viability of the project, and the opinions of community leaders were taken into account to move forward. The Regional Technical Board has also been consulted, which is made up of public institutions in the Region, the Regional Coordination Council, made up of elected authorities, such as mayors and corregimiento representatives. Likewise, the traditional authorities have been consulted: local and regional Cacique and the Regional and General Congress, which guarantees a broad consultation and incorporation of proposals into the project. Although women traditionally perform household activities, they are engaging in decision-making positions and voice their opinions: such is the case of Mrs. Inés Carpintero, the Mayor of the Nurun district. She is endorsing the project along with the entire municipal team.

The following community members participated in open dialogues regarding sustainable forest management:

The Director of the School, The President of the Educational Community of the school, the presidents of the local organizations, the presidents of peasant settlements, Cooperatives, the Mayoress of the Nurun district, the justice of the peace of the community, and the presidents of the surrounding communities that have mature community plantations of Pinus caribaea. The objective of these consultations was to know the participants' opinions and willingness to participate in forestry and silviculture activities. First, we did two preliminary meetings; then we met with local, regional authorities and the municipalities; we captured their opinions and suggestions for the project.

The participants are interested in the generation of employment, developing forestry activities, forming and strengthening the community forestry company, food production, and adapting production and marketing systems. The shared vision is to improve the production and management capacity of the area and bring social

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and economic benefits to the population. At the national level, the actions of the project will be consulted with the Vice ministry for Indigenous Issues and the National Coordination for Indigenous People.

L.K. Describe how the project/programme draws on multiple perspectives on innovation from e.g., communities that are vulnerable to climate change, research organizations, or other partners in the innovation space, in the context in which the project/programme would take place.

The design of innovative agroforestry systems and reforestation activities is bringing the academic and institutional experience of the field technicians of the ministry of the environment; moreover, it is taking into account the traditional ecological knowledge of the community. Other institutions that will provide technical expertise include: Ministry of agricultural development (MIDA), Institute for Agriculture research, National institute for human development (INADEH), and the Authority for the micro, small and medium enterprises (AMPYME).

This participatory process will help the replication and the adaptability of the proposed activities.

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

This project provides local development opportunities and aims to increase resilience to climate change in one of the most marginalized and vulnerable regions in Panama. The activities proposed by the project will provide sustained environmental and economic benefits helping the local communities to adapt to climate change. We highlight the alignment of projects components to the AF strategic outcomes, including the innovations (Table 1). We are also including a description of two possible scenarios -with and without AF funding (Annex 1).

Table 1. Alignment of project components to the AF strategic outcomes.

COMPONENTS / OUTCOMES / OUTPUT	Expected results AF
Component 1: Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change.	
<u>Outcome 1.1 Increased the resilience of livelihoods by integrating traditional ecological knowledge and traditional production practices with nature-based solutions.</u>	<u>Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level.</u> <u>Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas.</u> <u>Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies</u>
<u>Output 1.1.1 Systematize traditional practices and knowledge about locally adapted productive systems, including collecting seeds and plants resistant to pests and climatic variability</u>	INDICATORS: <u>Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning.</u>

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COMPONENTS / OUTCOMES / OUTPUT	Expected results AF
Output 1.1.2 Development of five productive community models as pilots (backyard production) in each district, allowing the inclusion of traditional ecological knowledge and practices as an ecosystem-based adaptation model.	i.No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability.
Output 1.1.3 Development of at least one pilot of a diversified productive system in each district, taking into account local potentialities and opportunities, using efficient and low-cost technologies, and facilitating gender participation in the production process	6.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies Output 8: Viable innovations are rolled out, scaled up,
Output 1.1.4 Install a water harvesting system with efficient and low-cost technology that contributes to the sustainability of livelihoods.	encouraged and/or accelerated.
Output 1.1.5 Develop training and knowledge exchange actions for beneficiaries on the field.	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated
1.2 Developed business plans and developed a value chain for products with high market potential, allowing gender inclusion.	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas
1.2.1 o Development of business plans for products with market potential.	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability.
1.2.2 Implement strategic investments that allow the Development of value chains with gender participation.	6.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies
1.2.3 Document the experiences and lessons learned, emphasizing innovative elements that drive changes allowing the scaling or replicating the experiences generated	
Component 2. Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change	
2.1 Preparation of studies and tools that facilitate the development of proposed actions to recover degraded and vulnerable areas.	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies
2.1.1 Climate change vulnerability and adaptation plan prepared and implemented with gender considerations	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.
2.1.2 Determination of areas with high potential for land recovery using land-use change analysis	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated
2.1.3 Preparation of an action plan to recover degraded areas with gender inclusion	
2.1.4 Development of actions for installing local nurseries and reforestation of prioritized areas under the concept of edible forests.	
2.2 Establishment of enabling conditions for the development of models of forest use and recovery of forests.	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress. Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies
2.2.1 Preparation of the Sustainable Forest Management and Use Plan	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability.
2.2.2 Elaboration of an environmental impact study for forest exploitation and wood processing	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)
2.2.3 Preparation of the environmental management plan (PAMA).	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.
2.3 Development of actions for the use and conversion of timber products	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated

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COMPONENTS / OUTCOMES / OUTPUT	Expected results AF
2.4 Environmental, social and economic evaluation of forest plantation conversion models and systematization of experiences	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies
2.4.1 Development of an evaluation study and economic valuation of the conversion of the pine forest plantation towards two different recovery models (assisted: edible forest) and natural recovery (pine and natural regeneration).	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated. <u>8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated</u>
2.4.2 Document experiences and lessons learned with an emphasis on innovative elements that drive changes that allow scaling or replicating the experiences generated	
Component 3. Improved local capacities through capacity building and knowledge management	
3.1 Strengthen the capacity of key stakeholders and improve knowledge on climate adaptation and resilience at the local.	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
3.1.1 Strengthened the capacity of beneficiaries, local authorities, and other key actors on ecosystems-based adaptation to improve the resilience of livelihoods and sustainable forest use and its transformation into higher value by-products	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning. <u>3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders</u>
3.1.2 Improved community organization and strengthened their business management skills for a better quality of life.	
3.1.3 Systematized and shared the experiences generated by the project through training actions, exchange of experiences, and systematization of experiences and lessons learned and their dissemination	
3.2 Platform for monitoring and evaluation on indigenous communities improved	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
3.2.1 Strengthening the platform for monitoring and evaluation on indigenous communities	<u>3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders</u>

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

By involving key actors and beneficiaries in both the planning and implementing stages of the project, we can encourage appropriation and proper development of the proposed actions.

The creation of a capacity-building center will allow the development of capacities related to agroforestry, silvicultural, and social entrepreneurship technologies as actions to build resilience and adapt to climate change.

The fostering of social entrepreneurship aims to give sustainability to the transformation and commercialization of timber and related products derived from silviculture and agroforestry systems.

Sustainable management of forests and wood processing are novel practices in the region; hence these activities require training and capacity building to ensure their sustainability. The project plans to develop capacity building plans covering the following phases: forest measurement activities, forest inventories, legal procedures to achieve harvesting permits, planning of forest activities by stages, business management, marketing, issues related to the cutting and extraction of wood, use of innovative equipment, management of sawmills, cutting, drying, immunization, and storage of timber. Likewise, other personnel will be trained in cabinetmaking by the National Institute for Capacity Development (INADHE) and other local training institutions. Women will be training in wood crafts and pine products (cones, needles, bark, and others). The training and human development component will guarantee the sustainability of the remaining human resources in the area.

Since 2004 the community of Buenos Aires that holds a community forest of 400 ha of Pinus caribaea and other communities whose community forest add to 200 ha have been requesting capacity building and resources to manage mature Pinus caribaea stands that are ready for a first cutting cycle. In recent consultations carried out in 2021, forest management is seen as an opportunity to provide jobs and economic inputs to the community. Moreover, the likelihood of pest attacks (Dendroctonus spp), uncontrolled forest fires, or arising conflicts to use the communal forests are justifications for fostering sustainable forest management that the communities can operate and own.

Based on previous estimations a total volume of 78,000 m³ of timber derived from Pinus caribaea stands that can be harvest during 10 years. The wood processing facilities must be able to process at least 10 m³ (or 4000 tablar foot) of timber on a daily basis. Hence the wood processing facilities must have at least a stationary saw machine, a wood drying system, and a system for wood treatment against fungi and other pests. These previous estimations will be completed with a feasibility study.

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

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	X	
Access and Equity		X

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<i>Marginalized and Vulnerable Groups</i>	X	
<i>Human Rights</i>	X	
<i>Gender Equity and Women's Empowerment</i>		X
<i>Core Labour Rights</i>	X	
<i>Indigenous Peoples</i>	X	
<i>Involuntary Resettlement</i>	X	
<i>Protection of Natural Habitats</i>	X	
<i>Conservation of Biological Diversity</i>		X
<i>Climate Change</i>	X	
<i>Pollution Prevention and Resource Efficiency</i>		X
<i>Public Health</i>	X	
<i>Physical and Cultural Heritage</i>	X	
<i>Lands and Soil Conservation</i>		X

Below is an analysis for the implementation of the 15 environmental and social principles of the Adaptation Fund:

Compliance with the Law:

The activities proposed in this project have to comply with norms and national regulations, including the following:

Environmental Impact Assessment (EIA) in compliance with: article 23 of Law 41 of July 1, 1998 (General Environment Law of the Republic of Panama).

Executive decree 123 that provide the norms and procedures for implementing an Environmental Impact Assessment.

Article 20 of Law 8, which creates the Ministry of the Environment.

Forestry Law (Law 1 of 1994 and Law 69 of 2018).

Executive decree 129. Forest Management Plans.

Laws specific to the Comarca Ngöbe Bugle.

Law 10 of March 7, 1997. That creates the Comarca Ngöbe Bugle.

Executive decree No. 194 of August 25, 1999.

The design and formulation of the Project have taken as reference the environmental laws and regulations of the Republic of Panama and Law 10 of the Ngöbe Bugle Comarca that governs activities within the Comarca.

Compliance with all the permits requested by the sectoral authorities to develop the proposed activities will be a prerequisite for disbursements to implement the proposed activities.

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Access and Equity

The project guarantees equity in the selection process of direct beneficiaries. Access and active participation of women and young people in decision-making processes and execution of activities will be ensured.

The days and hours in which women can participate will be taken into account and dates of traditional activities where the Gnöbe Bugle people participate in decision-making. To ensure participation in these processes calls for events (training, meetings, others) will be held in due time. It is important to highlight that the Major of the Nürum district is a woman.

The project will hold periodic meetings to report on the progress of the project, primarily aimed at women leaders and young people. Most of the artisan activities are carried out by groups of women who will be taken into account to participate in the project and improve their income. The project will pay attention to the distribution of knowledge materials (translations of the ngöbe and bugle languages will be carried out if possible). ~~There are low risks in component 2 activities, so the complete proposal will detail the mitigation measures and those responsible for monitoring to minimize this risk.~~

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Marginalized and Vulnerable Groups

The Project's areas of influence are considered areas of extreme poverty where groups have been marginalized for decades, being highly vulnerable to the impacts of climate change. ~~The project will comply with national and international laws that protects the human rights of vulnerable populations such as women and youth.~~

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Human Rights

No activities were identified whose execution is misaligned with established international human rights principles. The project promotes basic human rights with activities to ensure sustainable and equitable access to better livelihoods, capacity building, and access to information in the medium term. The project will work to strengthen stakeholders to guarantee the food security of the beneficiaries that live in the region through the production of sustainable systems with adaptation measures and participation in decision-making at the municipal level.

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Gender Equity and Women's Empowerment

Project planning and activities will do ample notice so people interested can participate, especially ensuring women's participation because, in indigenous communities, the women are usually in charge of household activities. It is expected that with the Project, both women and men will be empowered and participate in activities to minimize climate change's vulnerability and the diversification of family income.

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Core Labour Rights

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Labor rights are guaranteed according to the Panama labor code and the established norms of the region. The project will not generate child labor; It will not violate the standards for the protection of children and their fundamental rights.

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Indigenous Peoples

The project will carry out activities with the Ngöbe population and mainly with the Buglé population. It will also work with the peasant population (on the border of the region with the province of Veraguas - outside the region).

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In addition to adhering to national laws, the activities of the project will be presented to the Ngäbe Buglé General Congress so that through a resolution of the Congress, the project can be executed with the approval of these traditional authorities.

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The project will also be presented to the National Coordination Of Indigenous People (CONAPIP) and the Vice Ministry of Indigenous Affairs for their endorsement and approval. In this way, the projects aim to respect indigenous autonomy and comply with the rules needed to execute development projects in the Ngäbe Buglé Comarca.

Involuntary Resettlement

Resettlement is not foreseen in the Project. No guidance or implementation initiative requiring voluntary resettlement has been identified.

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Protection of Natural Habitats

The protection of natural habitats will be enhanced. The project will contribute to the protection of riparian forests and vulnerable areas to guarantee that productivity is maintained for the target population. The protection of the central mountain range as a biological corridor will be promoted.

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Conservation of Biological Diversity

On the subject of the conservation of biological diversity, grasslands are being transformed into productive areas or forests using species that help to protect biodiversity. In the area, there are many endemic species; They will be safeguarded through training so that the same population contributes to the conservation of the species. The dissemination of information on food, medicinal, and artisan species almost extinct in the area through agroforestry systems will be incorporated.

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Climate Change

The project will not implement activities that are the source or cause of unwarranted

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greenhouse gas emissions or other stressors of climate change. On the contrary, some of the proposed activities will lead to the reduction of greenhouse gases. The wood processing facility will produce greenhouse gases that will be mitigated by reforestation activities.

Pollution Prevention and Resource Efficiency

Organic products will be used to improve productivity that has no risk of contamination of water resources, soil, or environment. There will also be activities such as ethno-tourism, which is will not generate pollution. For activities that may cause some minor pollution, the

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regulations on pollutants of the Republic of Panama will be used.

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The wood processing facility will go through an environmental impact assessment labeled as category II: An activity that causes significant environmental impacts; such impacts can be prevented by adopting early actions.

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Public Health

The project activities do not pose any risk to human health. The production of traditional medicine is strengthened and generated. (ancestral products of the population of the region).

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The wood processing facility will produce noises and greenhouse gases. Early mitigations actions will be implemented to prevent people's exposition to these hazards.

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Physical and Cultural Heritage

The protection and culture of the Ngöbe Bugle heritage is guaranteed by strengthening knowledge and discussion of traditional techniques for producing its products (chacaras, nagua, bags, hats, etc.).

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Lands and Soil Conservation

~~None of the proposed activities has been identified as causing soil degradation or loss of productive lands.~~ Appropriate techniques will be used for soil improvements that guarantee sustainable production in micro valleys through conservation techniques, soil management, micro-irrigation that guarantees an increase in food security, and a decrease in felling, burning (which causes more significant damage to the ecosystem).

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The wood processing facility will cause significant impacts to soil. Early mitigations actions will be adopted to prevent such negative effects.

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PART III: IMPLEMENTATION ARRANGEMENTS

- A. Describe the arrangements for project / programme management at the regional and national level, including coordination arrangements within countries and among them. Describe how the potential to partner with national institutions, and when possible, national implementing entities (NIEs), has been considered, and included in the management arrangements.
- B. Describe the measures for financial and project / programme risk management.
- C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.
- D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.
- E. Include a results framework for the project / programme proposal, including milestones, targets, and indicators.
- F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) ⁴	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)

⁴ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

- G. Include a detailed budget with budget notes, broken down by country as applicable, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.
- H. Include a disbursement schedule with time-bound milestones.

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

A. Record of endorsement on behalf of the government⁶ Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project / programme. Add more lines as necessary. The endorsement letters should be attached as an annex to the project/programme proposal. Please attach the endorsement letters with this template; add as many participating governments if a regional project/programme:

Milciades Concepción, Minister, Ministry of the Environment	Date: January 5, 2022
---	-----------------------

⁶ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (.....list here.....) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.</p>	
<p><i>Name & Signature</i></p> <p>Implementing Entity Director - Rosa Montañez</p>	
<p>Date: <i>January 10, 2022</i></p>	<p>Tel. and email: +507 6780-7941</p>
<p>Project Contact Person: Vilna Cuéllar (Natura)</p>	
<p>Vaneska Bethancourt (MiAmbiente)</p>	
<p>Tel. And Email: +507 6678-0682 / vcuellar@naturapanama.org</p>	
<p>+507 6980-5933 / vbethancourt@miambiente.gob.pa</p>	

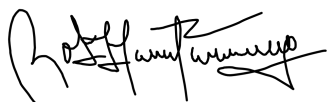
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B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

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 (.....list here.....) 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.



Name & Signature

Implementing Entity Director - Rosa Montañez

Date: *January 10, 2022*

Tel. and email: +507 6780-7941

Project Contact Person: Vilna Cuéllar (Natura)

Vaneska Bethancourt (MiAmbiente)

Tel. And Email: +507 6678-0682 / vcuellar@naturapanama.org

+507 6980-5933 / vbethancourt@miambiente.gob.pa

ANEXO 1. CARTA DE ENDOSO



MINISTERIO DE
AMBIENTE

ADAPTATION FUND

Letter of Endorsement by Government

Panamá, 5 de enero de 2022
DM-0013-2022

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for "Applying traditional ecological knowledge to agroforestry and silviculture as natural base solutions to increase resilience to climate change in the Ngäbe-Bugle territory and Veraguas in the Republic of Panama."

In my capacity as designated authority for the Adaptation Fund in Panama, I confirm that the above project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the region.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Ministry of Environment and executed by NIE Fundación Natura.

Sincerely,


MILCIADES CONCEPCIÓN
Minister of Environment, Ministry of Environment
MC/MC/VB



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Project Formulation Grant (PFG)

Submission Date: January 10, 2022

Adaptation Fund Project ID:

Country/ies: Panamá

Title of Project/Programme: Applying traditional ecological knowledge to agroforestry and silviculture as natural base solutions to increase resilience to climate change in the Ngäbe-Bugle and Veraguas territory in the Republic of Panama (Innovation)

Type of IE (NIE/MIE): NIE

Implementing Entity: Fundación Natura

Executing Entity/ies: Ministerio de Ambiente

A. Project Preparation Timeframe

Start date of PFG	March 2022
Completion date of PFG	August 2022

B. Proposed Project Preparation Activities (\$)


Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
1. Work sessions with the main partners of the program to verify the logical framework and components of the program (Ministry of the Environment, county authorities, basin committee)	<ul style="list-style-type: none"> Revised and validated program Agreement on the process of preparation and validation of proposals at the local level, including criteria for social and environmental safeguards. 	15,000
2. Preparation of the Complete Program Proposal: a. Incorporate the observations and recommendations received from the Secretariat on the pre-concept of the program presented b. Develop the risk analysis of the proposed program and the proposed M&E protocol c. Prepare and deliver materials -on the proposed program- to key actors at the local level (both areas)	<ul style="list-style-type: none"> Proposal and materials prepared and distributed to key stakeholders to be consulted. Completed draft of the full program proposal. 	8,000
3. Two stakeholder consultation workshops in both areas of the proposed program.	<ul style="list-style-type: none"> Draft full program proposal reviewed by local stakeholders. Draft document validated by local stakeholders. 	15,000

4. Public consultation via internet and national newspapers. The full validated program proposal will be published on the open websites of Fundación Natura and the Ministry of the Environment, providing the means to offer final comments. In addition, an announcement will be made in two national newspapers, inviting the general public to consult the aforementioned websites.	The full program proposal was widely shared and final comments incorporated.	2,000
5. Final meeting with relevant stakeholders (civil society, academia, others) for the validation of the final program proposal	Final approval of the Complete Program Proposal and implementation agreements.	10,000
Total Project Formulation Grant		50,000

C. Implementing Entity

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

Implementing Entity Director, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Rosa Montañez		January 10, 2021	Vilna Cuéllar	+507 6678-0682	vcuellar@naturapanama.org
			Vaneska Bethancourt	+507 6980-5933	vbethancourt@miambiente.gob.pa

Annex 1. Breakdown of project components and two possible scenarios -with and without AF funding.

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Component / output	Without the program	With the program
<u>Component 1 Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change.</u>		
<u>1.1 Increased the resilience of livelihoods by integrating traditional ecological knowledge and traditional production practices with nature-based solutions.</u>	<u>Very limited and isolated investments of the national government in these sectors for agricultural conversion and that for the most part do not consider climate variability. Lack of diversification in traditional livelihoods, which increases vulnerability due to climate change and threatens water and food security. Unsustainable land use will continue with unfriendly traditional systems of slash-and-burn agriculture that drive deforestation, pollution, and soil impoverishment.</u>	<u>Innovative proposal that will allow the integration of knowledge and traditional productive practices with nature-based solutions whose ultimate goal is to reduce the traditional practice of slash and burn and the effects that these practices have (deforestation, pollution, soil deterioration, loss of biodiversity). The program will allow the inclusion of productive diversification actions that will contribute to the food security of the beneficiaries. Additionally, water harvesting systems are included, which are important for the water security of families and maintain the productivity of livelihoods in periods of lack of precipitation. The inclusion of gender in production processes and their benefits is a key element in the program and will affect the quality of life of families.</u>
<u>1.2 Developed business plans and developed a value chain for products with high market potential, allowing gender inclusion.</u>	<u>Very few opportunities for the preparation of business plans and development of value chains in these areas</u>	<u>The program allows the development of business plans for products with the greatest potential and makes strategic investments for the development of value chains with a gender perspective. This is key to improve the quality of life of these communities and opening opportunities for the inclusion of women in production processes and opening new employment opportunities in the region.</u>
<u>Component 2. Developed recovery processes for degraded areas of high value for conservation and resilience to the effects of climate change</u>		
<u>2.1 Preparation of studies and tools that facilitate the development of proposed actions to recover degraded and vulnerable areas.</u>	<u>Efforts to recover degraded areas in this area would be scarce if they were not within priority watershed, as they are sparsely populated districts.</u>	<u>The program would allow to promote the recovery of areas degraded by unsustainable uses that benefit indigenous communities with gender inclusion, integrating them into the processes of recovery and subsequent use of environmental goods and services that these areas will provide in the medium to long term.</u>
<u>2.2 Establishment of enabling conditions for the development of models of forest use and recovery of forests.</u>	<u>The basic management of the pine forest plantation would continue, focused on protection and with scarce opportunities for sustainable forest use and the inclusion of the surrounding communities in its benefits and generation of capacities.</u>	<u>The project would allow establishing the enabling conditions for the beginning of a sustainable forest use with the participation of gender in the use and in its benefits</u>
<u>2.3 Development of actions for the use and conversion of timber products</u>	<u>Without the program, medium-term investments for the use and conversion of wood into by-products would be limited</u>	<u>The program would allow investments to be made to establish the conditions (tools, equipment, training center, capacity building) for the use of wood and add value through its transformation.</u>

Component / output	Without the program	With the program
<u>2.4 Environmental, social and economic evaluation of forest plantation conversion models and systematization of experiences</u>	<u>This type of economic and socio-environmental evaluation of models for the use of forest resources does not have financing for its development.</u>	<u>The program is key to finance this type of studies, the results of which would contribute to a better understanding of forestry hand-crops, their use and reversion towards systems that could have greater value for the contribution of environmental goods and services in the medium term and allow their scaling and replicability in other zones.</u>
<u>Component 3 Improved local capacities through capacity building and knowledge management</u>		
<u>3.1.1 Strengthened the capacity of beneficiaries, local authorities, and other key actors on ecosystems-based adaptation to improve the resilience of livelihoods and sustainable forest use and its transformation into higher value by-products</u>	<u>Low capacity in key actors to understand climate change and ecosystem-based adaptation.</u> <u>Limited investments in adaptation of livelihoods with application in the field</u>	<u>The program will develop capacities in key actors to understand climate change and ecosystem-based adaptation.</u> <u>The program will allow the monitoring and evaluation of the actions and results, the communication of the progress and results of the program, the systematization of experiences and lessons learned, and the promotion of exchanges at different levels</u>
<u>3.1.2 Improved community organization and strengthened their business management skills for a better quality of life.</u>		

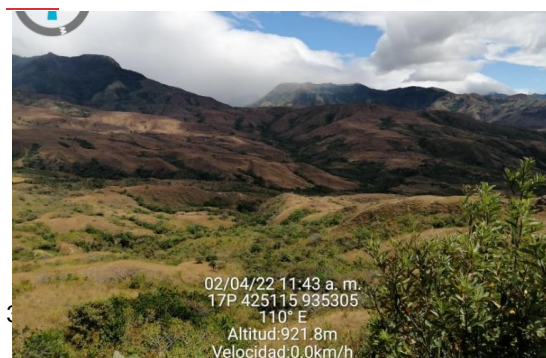
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Annex 2. Evidences of community consultations and dialogues.


**1. Consultation process in Piedra Blanca de Muna Comarca Ngöbe Bugle. There were 29 women and 30 men.
04/02/2022.**



2. Areas with with reforestation and recovery potential.



3. Participants in project consultation in Sitio Prado Comarca Ngöbe Bugle. 9/02/2022.



REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

MINISTERIO DE AMBIENTE
ADMINISTRACION REGIONAL COMARCA NGÖBE BUGLE

Tel. 726-0833
Fax. 726-0833

Sabanita, Nole Duima
Comarca Ngöbe Bugle

ASISTENCIA

Fecha: 9 02 2022
Lugar: Sitio Prado

No	Nombre	Comunidad	Organización que representa	Cargo dentro de la Organización	Teléfono	Firma	Sexo		Edad					
							Fem	Masc	Menores de 15 años	16-29	30-44	45-59	60-74	75 y más
1	Morán Orena C.	Hano Bano	Juzgado		67031764	<i>[Signature]</i>		✓				✓	✓	
2	Abelardo Capintero J.	Sitio Prado	Comité de Usuarios			<i>[Signature]</i>		✓					✓	
3	Enrique Reyes S.	Buena Vista												
4	Donato Gómez	Hano Bano	Protección											
5	Edma Graciel	Hano Bano	Protección											
6	Durán Jimena	Jerusalem				<i>[Signature]</i>							✓	
7	Evotobal Capintero	Alto Puerto											✓	
8	Yrene Ulate C.	Bajo Mina	Exp. mechi			<i>[Signature]</i>	✓				✓			
9	Sandoval Jucinos	Chico Pinar			6605204	<i>[Signature]</i>								
10	Peregrino Jimenez	Hano Bano	Municipal	Juzgado	6740-11-81	<i>[Signature]</i>		✓					✓	
11	Noel Galindo M.	Sitio Prado			6764-5428	<i>[Signature]</i>		✓		✓				
12	Alfonso Capintero	Buena Vista	Voluntariado	Presidente	65937031	<i>[Signature]</i>							✓	
13	Gerardo Capintero	Sitio Prado	Voluntariado	Presidente	66655200	<i>[Signature]</i>		✓						✓
14	Conrado Gómez S.	Sitio Prado	Mi Ambiente	Mecánico	6714-5101	<i>[Signature]</i>		✓					✓	
15	Elvira Arango	Sabanita	Ministerio	Técnico	6828-7028	<i>[Signature]</i>	✓						✓	

Tema: presentación de ideas de propuestas de proyecto "aplicación de conocimientos ancestrales en prácticas agrícolas....."





4. Project divulgation in a community assembly. Sabanita Nole Duima District. Comarca Ngobe Bugle. 09/02/2022.



Fecha: December 16, 2021

Lugar: Comunidad de Buenos Aires, Comarca Ngöbe Bugle

Topic: Presentation of project idea to actors from the Gnöbe Bugle region

AMBIENTE
DIRECCIÓN GENERAL DE AMBIENTE
DIRECCIÓN FOMENTO DE LA CULTURA AMBIENTAL
ASISTENCIA

REGIONAL: ONB Fecha: 16/12/21
Tema: Reunión del Consejo Provincia: Ngöbe
Actividad: Proyecto Distrito: Nuevo
Categoría: Proyecto Corregimiento: Buenos Aires
Lugar: Comunidad de Buenos Aires

Nº	NOMBRE	SEXO	EDAD	DIRECCIÓN	Edad de participante				
					Menor de 18	18-24	25-34	35-44	45-54
1	Santo Valdez	✓		Comunidad B.A.					
2	Alfonso Rodríguez	✓		del municipio					
3	Agustín Rodríguez	✓		B.A.					
4	Alfonso Rodríguez	✓		del municipio					
5	Alfonso Rodríguez	✓		del municipio					
6	Alfonso Rodríguez	✓		del municipio					
7	Alfonso Rodríguez	✓		del municipio					
8	Alfonso Rodríguez	✓		del municipio					
9	Alfonso Rodríguez	✓		del municipio					
10	Alfonso Rodríguez	✓		del municipio					
11	Alfonso Rodríguez	✓		del municipio					
12	Alfonso Rodríguez	✓		del municipio					
13	Alfonso Rodríguez	✓		del municipio					

Lista mantenida por: Comunidad de Buenos Aires

CONSULTAS

ANEXO 2.

Fecha: December 16, 2021

Lugar: Comunidad de Buenos Aires, Comarca Ngöbe Bugle

Topic: Presentation of project idea to actors from the Gnöbe Bugle region

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Lugar: Comunidad de Buenos Aires, Comarca Ngöbe Bugle
Topic: Consultation meeting with the Municipal Council of Nūrun

Topic: Consultation meeting with the Municipal Council of Nurun

[illegible]

Lugar: Comunidad de Buenos Aires, Comarca Ngöbe Bugle

Topic: Project idea and clarification of doubts to local authorities, administrative and traditional authorities, presidents of community organizations in the Municipal Council of Ñurun.

[illegible]