MONITORING REPORT OF THE CHOCÓ-DARIÉN CONSERVATION CORRIDOR REDD PROJECT

Document Prepared By

Consejo Comunitario de Comunidades Negras de la Cuenca del Río Tolo y Zona Costera Sur – COCOMASUR

Contact: +57 3206646814; cocomasur@gmail.com

South Pole Carbon Asset Management S.A.S.

Contact: +57 4 352 4428; v.giraldo@southpole.com

Project Title	The Chocó-Darién Conservation Corridor REDD Project
Project ID	856
Version	02
Report ID	Not applicable
Date of Issue	14-06-2018
Project Location	Colombia, Chocó
Project Proponent(s)	Anthrotect S.A.S. Contact: +1 (650) 681-9787
Prepared By	Consejo Comunitario de Comunidades Negras de la Cuenca del Rio Tolo y Zona Costera Sur – COCOMASUR Contact: +57 3206646814; cocomasur@gmail.com South Pole Contact: +57 4 352 4428; v.giraldo@southpole.com
Validation/Verification Body	Instituto Colombiano de Normas Técnicas. ICONTEC Ángela Duque Contact: (571) 607 88 88 Ext.: 1381; aduque@icontec.net
GHG Accounting/Crediting Period	VCS: 18 October 2010 – 17 October 2040; 30-year total period CCB: 01 January 2011 – 31 December 2040; 30-year total period
Monitoring Period of this Report	VCS: 16 June 2012 – 31 December 2017 CCB: 1 January 2011 – 31 December 2017
History of CCB Status	Validation date: 9 February 2012 Extension of verification deadline: 31 July 2018
Gold Level Criteria	**Benefits of Biodiversity** The Area and the Project Area contain significant concentrations of fauna and flora, which hold significant importance locally, nationally, regionally and globally. 11 species that fall under a particular threat category according to the Union for Conservation of Nature (IUCN) have been identified in these areas, one of which is endemic of Colombia with a restricted range of distribution. These 11 species include six plant species (*Dipteryx oleifera* (VU), *Cedrela odorata* (EN), *Anacardium excelsium* (NT), *Minquartia guianensis* (NT), *Caryocar amygdaliferum* (VU), and *Astrocaryum standleyanum* (NT)), one bird species endemic to Colombia, restricted to patches of humid forest and riparian forests between 100 and 2,500 meters above sea

level and almost threatened (*Ortalis columbiana* (NT)); two primates (the *howler monkey*, *Alouatta palliata* (VU), and the spider monkey, *Ateles fusciceps rufiventris* (EN)), one critically endangered species of amphibian (green frog with black, *Atelopus varius* (CR)), and one kind of vulnerable reptile (the canine turtle, *Dermochelys coriacea* (VU)).

The successful conservation of the forest and its ecosystemic functions has been made possible through offering incentives for their protection and by increasing the autonomy and self-governance of the afrodescendant communities that own the Project. These factors remain essential for the preservation of two Key Areas for Biodiversity (KAB), one in Colombia (Capurganá) and other in Panamá (Darién), due to the Project is within the influence area of them.

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1   SUMMARY OF PROJECT BENEFITS

The Chocó Darién Conservation Corridor Project (CCCHD) is located in the municipality of Acandí, in the collective property of the Council of Afro-Colombian Communities of the Tolo River Basin and the Southern Coastal Zone (COCOMASUR). COCOMASUR is formed of 480 families divided into nine local councils who own the Project. The Project Area is located in the Serranía del Darién, an area of great biological diversity and high concentration of endemic species, it also borders the Darién National Park in Panama and is close to Katíos National Natural Park.

The project facilitates the conservation of 13,465[1] hectares of forest. Much of this land is primary forest,[2] and is being protected from deforestation for the implementation of pastoral land for cattle. The project also creates the conditions to strengthen governance, the appropriation of territory, its orderly management and, as a consequence, the right to usufruct and enjoy it. The Project also promotes the rescue and strengthening of the cultural identity of Afro-Colombian communities.

1.1   Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
COCOMASUR becomes a national benchmark for the implementation of other REDD+ projects and to help to define climate change mitigation policies.	Recognition by El Colombiano Exemplary in the environmental category.	2.2.1	Recognition by El Colombiano Exemplary in the environmental category.
	Community facilitator in governance and community monitoring.	2.4.1	Community facilitator in governance and community monitoring.
	Strategic partner for the consolidation of the national policy on climate change.	2.2.5.4	Strategic partner for the consolidation of the national policy on climate change.
Development of management	Arrangement and	2.2.5.5	Arrangement and

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[1] Collective land title.

[2] Section G.1.2. of the CCB´s Project Design Document.

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
capacity and increase of administrative capacity.	execution of agreements and contracts supported by the territory management and the creation of jobs.		execution of agreements and contracts supported by the territory management and the creation of jobs.
Equitable access to the project and the benefits resulting from being part of COCOMASUR.	Delivery of land usufruct for access to credits.	4.3.2.1.3	Delivery of land usufruct for access to credits.
	Process management for the restitution of territorial rights in the areas surrounding the Project Area.	2.2.5.1	Process management for the restitution of territorial rights in the areas surrounding the Project Area.
Conservation of forest land cover.	There were no significant disturbances in the Project Area, nor was there significant evidence of forest fragmentation.	3.1.5 5.3.2.4	There were no significant disturbances in the Project Area, nor was there significant evidence of forest fragmentation.
Habitat protection for birds endemic to Colombia with restricted distribution ranges.	Sighting of 15 individuals of *Ortalis columbiana*.	5.3.2.2.1.1	Sighting of 15 individuals of *Ortalis columbiana*.
Habitat protection for all 11 species of fauna and flora found that fall under a particular threat category.	Threatened individuals from six species of plants, two primates, one bird, one amphibian and one reptile registered.	5.3.2.5	Threatened individuals from six species of plants, two primates, one bird, one amphibian and one reptile registered.
Reforestation with endangered species.	Two nurseries to reforest and repopulate the Area with endangered and native species were established. Local excursions were also initiated to search for seeds.	5.1.2	Two nurseries to reforest and repopulate the Area with endangered and native species were established. Local excursions were also initiated to search for seeds.

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the baseline scenario	Not applicable		Not applicable
GHG emission reductions & removals	Net estimated emission reductions in the project area, measured against the baseline scenario	330,711 tCO$_2$e	3.2.4	435,288 tCO$_2$e
Forest[3] cover	For REDD[4] projects: Number of hectares of reduced forest loss in the project area measured against the baseline scenario	1,245 ha	3	1,618 ha
Forest[3] cover	For ARR[5] projects: Number of hectares of forest cover increased in the project area measured against the baseline scenario	Not applicable		Not applicable
Improved land management	Number of hectares of existing production forest land in which IFM[6] practices have occurred as a result of the project's activities, measured against the baseline scenario	Not applicable		Not applicable
Improved land management	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the baseline scenario	Not applicable		Not applicable

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[3] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)

[4] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

[5] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

[6] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Training	Total number of community members who have improved skills and/or knowledge as a result of training provided as part of project activities	98	2.2.7.2.2	98
	Number of female community members who have improved skills and/or knowledge as a result of training provided as part of project's activities of project activities	36	2.2.7.2.2	36
Employment	Total number of people employed in project activities,[7] expressed as number of full time employees[8]	29	2.4.3	29
	Number of women employed in project activities, expressed as the number of full time employees	10	2.4.3	10
Livelihoods	Total number of people with improved livelihoods[9] or new income generated as a result of project activities	291	4.1.1 4.3.2	291
	Number of women with improved livelihoods or new income generated as a result of project activities	88		88
Health	Total number of people for whom health services were improved as a result of project activities, measured against the baseline scenario	Not applicable		Not applicable
	Number of women for whom health services were improved as a result of project activities, measured against	Not applicable		Not applicable

[7] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.

[8] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102]; [17.28])

[9] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	the baseline scenario			
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the baseline scenario	127	2.2.7.2	127
Education	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the baseline scenario	108	2.2.7.2	108
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the baseline scenario	Not applicable		Not applicable
Water	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the baseline scenario	Not applicable		Not applicable
Well-being	Total number of community members whose well-being[10] was improved as a result of project activities	524	4.3.2	524
Well-being	Number of women whose well-being was improved as a result of project activities	227	4.3.2	227

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[10] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.

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Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Biodiversity conservation	Change in the number of hectares significantly better managed in terms of biodiversity conservation,[11] measured against the baseline scenario	Although no reforestation activities have been started, two nurseries have already built and the search for seeds for the propagation of native and/or endangered species has begun.	5.1	Although no reforestation activities have been started, two nurseries have already built and the search for seeds for the propagation of native and/or endangered species has begun.
	Number of globally critically endangered or endangered species[12] benefiting from reduced threats as a result of project activities,[13] measured against the baseline scenario	11 species of fauna and flora were found to be in some category of threat.	5.3.2	11 species of fauna and flora were found to be in some category of threat.

2 GENERAL

2.1 Project Description

2.1.1   Implementation Description

The main activities to be carried out during the Project are established in the CCB Project Design Document. [14]. They are as follows: planning land use, agricultural intensification, territory demarcation, strengthening of local governance, monitoring and surveillance of the forest, implementation of silvopastoral systems, reforestation and regeneration, promotion of non-timber forest products, sustainable extraction of forest biomass, improved forest management and certified artisanal mining. All

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[11] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.

[12] Per IUCN's Red List of Threatened Species.

[13] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit.

[14]   Project   Design   Document   available   at: http://www.vcsprojectdatabase.org/services/publicViewServices/downloadDocumentById/24257

these activities aimed at controlling the deforestation factors that have been identified as: subsistence agriculture, uncontrolled logging, livestock raising, large-scale agriculture, infrastructure projects, land speculation, licensed timber extraction, timber extraction for local use and mechanized mining.

During the period 01 October 2010 – 15 June 2012, corresponding to the first VCS verification, the project identified nine territorial conflicts, carried out a workshop about collective rights, developed a community survey to monitor awareness of community rights and benefits, and conducted a community census to gain basic information regarding health and education. COCOMASUR completed the evaluation and reorganization of local councils in accordance with organizational bylaws, identified key areas for the development of project activities, established protocols for communication between local councils, and carried out inspections of the territory boundary and forest patrols. In addition, the first monitoring of the permanent carbon plots was done using previous community training. COCOMASUR was trained in resource management and a bank account was activated for the same purpose. The project achieved a net reduction of 104,577 tCO$_2$e during this period. [15]During the current monitoring period, the Project has been focused on the following strategies: (1) strengthening the internal governance structures, (2) development of COCOMASUR's administrative and community capacity, (3) clarification of the Project boundaries, (4) controlling deforestation factors and forest degradation, (5) construction of community capacity to monitor the social and environmental impacts of the Project and (6) identification of viable opportunities for economic resource generation. These strategies, are framed in the four areas identified for the success of the Project and the well-being of local communities. They are: improved and strengthened territorial governance, strengthening of cultural identity, food security and alternative livelihoods, and increased well-being.

The increase in the community's governance capacity was the main achievement during the current monitoring period. This has allowed the strengthening of the operative faculty facilitating other project activities, including the ability to manage economic resources and strategic alliances, as well as the correct planning for the use of territory.

A community forestry team has been consolidated with forest monitoring and surveillance patrols both in the Project Area and in the Leakage Area. Furthermore, diversified agricultural alternatives have been introduced. This has resulted in the maintenance and management of the high conservation values as well as the generation of employment and local subsistence alternatives.

Finally, as a result of the strengthened governance capacity, diversified livelihoods, and monitoring and surveillance, it has been possible to reduce the pressure on the forest in the project area, reaching to reduce 330,711 tCO$_2$e during the current monitoring period.

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[15] Monitoring Report 01 October 2010 - 15 June 2012 available at: http://www.vcsprojectdatabase.org/services/publicViewServices/downloadDocumentById/11476. Verification Report 01 October 2010 - 15 June 2012 available at: http://www.vcsprojectdatabase.org/services/publicViewServices/downloadDocumentById/11477.

2.1.2   **Project Category and Activity Type**

The Project falls under VCS Sectoral Scope 14 "Agriculture, Forestry and Other Land Use" under project activities Reducing Emissions from Deforestation and Forest Degradation (REDD+). This project is categorized as Type U2 (AUDD mosaic deforestation) by the definition provided in VM0009 methodology version 2.0.

This is not a grouped project.

2.1.3   **Project Proponent(s)**

Organization name	Anthrotect S.A.S.
Contact person	Brodie Ferguson
Title	President
Address	Brasil
Telephone	+1 (650) 681-9787
Email	brodie.ferguson@anthrotect.com

2.1.4   **Other Entities Involved in the Project**

Organization name	COCOMASUR
Role in the project	Project Coordinator
Contact person	Everildys Córdoba Borja / Ferney Caicedo Panesso
Title	General Coordinator / Technical Coordinator
Address	Calle Las Flores, Acandí – Chocó
Telephone	+57 320 664 67 92 / +57 320 664 68 14
Email	everildyscordoba@gmail.com / ferne.caicedo@gmail.com

Organization name	Fondo para la Acción Ambiental y la Niñez
Role in the project	Strategic Ally
Contact person	José Luis Gómez / Natalia Arango Vélez
Title	Executive Director / Technical Director
Address	Carrera 7 N. 32 – 33 Piso 27, Bogotá
Telephone	+57 (1) 285 38 62
Email	joselgomez@fondoaccion.org / narango@fondoaccion.org

2.1.5 Project Start Date (G3.4)

October 18th, 2010.

2.1.6 Project Crediting Period (G3.4)

VCS: October 18th, 2010 to October 17th, 2040. The total crediting period is 30 years.

CCB: January 01st, 2011 to December 31st, 2040. The total crediting period is 30 years.

2.1.7 Project Location (G3.3)

The Project is located in the Darién region in northwest Colombia within the administrative jurisdictions of the Department of Chocó and the Municipality of Acandí (Illustration 1). The Project is approximately 250 km northwest of Bogota and 10 km southwest of the town of Acandí and is adjacent to the Colombia-Panama border (Illustration 1).
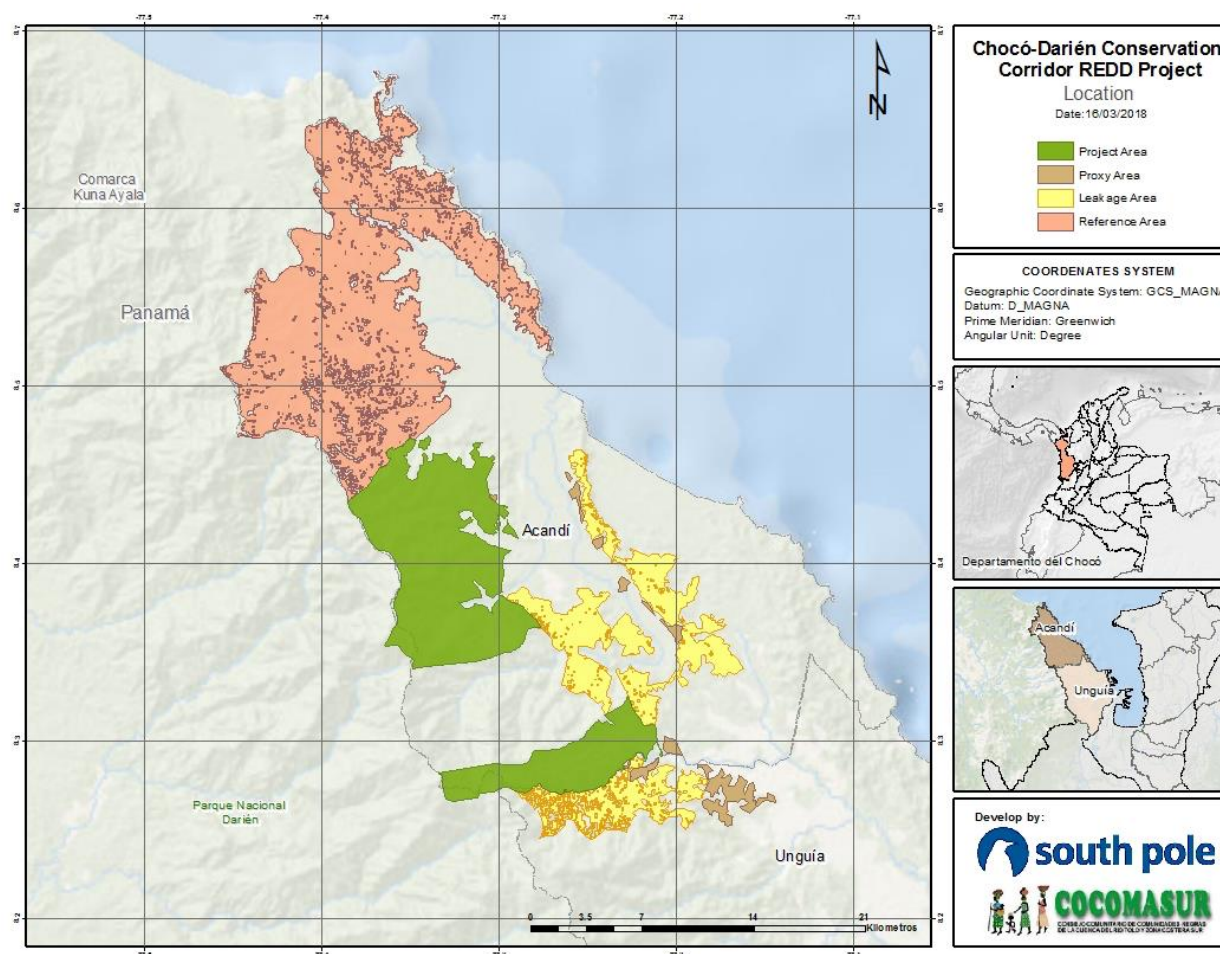
Illustration 1. Project Location

2.1.8   Title and Reference of Methodology

This project uses the VCS-approved VM0009 Methodology.

Tools applied:

VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, version 3.0.[16]

2.1.9   Other Programs (CL1.5)

Emission Trading Programs and Other Binding Limits

The emissions reduction or removal, as a result of this project, will not be used for compliance under any other trading program or mechanism. The current VCS project is entirely independent of any other carbon project scheme in Colombia therefore no double counting has occurred.

Other Forms of Social or Environmental Credit

The Project has not sought nor received any other Greenhouse Gases (GHG) environmental credit.

Participation under Other GHG Programs

The Project has not been registered nor is not seeking registration under any other GHG program.

2.1.10   Sustainable Development

The key Sustainable Development Goals (SDG) for the Colombian government since 2016 are: quality education (4), reduction of inequalities (10), and peace, justice and solid institutions (16) ("Colombia's plan for development - PND 2014 – 2018").[17] In order to achieve these goals, the Colombian government proposed different strategies for each region of the country based on their social, economic and environmental problems. These strategies are all designed to be sustainable.

The Project Area is located in the Department of Chocó, in the Colombian Pacific region. It is one of the regions with the highest multidimensional poverty index and the greatest inequality in terms of access to education, health and employment. The strategies proposed by the national government to reduce the social and economic gaps in the Pacific are described in the regional strategy[18] The Pacific: Socioeconomic Development with Equity, Integration and Environmental Sustainability. In this plan

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[16] Document available online at: http://database.v-c-s.org/methodologies/tool-demonstration-and-assessment-additionality-vcs-agriculture-forestry-and-other

[17] Colombia's plan for development 2014 – 2018 available at: https://www.dnp.gov.co/Plan-Nacional-de-Desarrollo/Paginas/Que-es-el-Plan-Nacional-de-Desarrollo.aspx

[18] Colombia's plan for development 2014 – 2018 available at: https://www.dnp.gov.co/Plan-Nacional-de-Desarrollo/Paginas/Que-es-el-Plan-Nacional-de-Desarrollo.aspx

actions are proposed to improve socioeconomic conditions by promoting the productive and sustainable use of natural resources and the cultural diversity characteristic of this region. The National Development Plan (PND) 2014-2018 highlights the follow areas to address:

1. Reduce poverty rates and socioeconomic gaps between the coastal and Andean regions of the Pacific.

2. Encourage the growth of economic activities for the internal development of the coast.

3. Improve the integration of the territory by increasing multimodal connectivity along the coast. Potentiate the region as a strategic logistics platform for commercial exchange. Increase accessibility between the interior of the country, Asia and the rest of the Pacific.

Additionally, the transversal strategy of green growth in the PND 2014 - 2018 lays out goals that aim to prevent the degradation of ecosystems, pollution and other environmental conflicts caused by the economic and population growth of the country. The objectives of this strategy are:

1. Move towards sustainable and low carbon growth, based on wastewater treatment and environmental health.
2. Protect and ensure the sustainable use of natural capital and improve the quality and environmental governance. This is to be achieved through the conservation of biological diversity, reduction of deforestation, integrated management of water resources, integrated land management, strengthening of regional capacities to consolidate adapted and low carbon territories, generation of information and knowledge in environmental matters and sustainable tourism.

The PND plans that are described above are directly related to the SDGs, as are the project activities.

The development of this REDD+ project has promoted the reduction of climate risks, the increase of protection of ecosystems, the improvement in quality of life and the preservation of ecosystem services such as biodiversity and carbon sequestration. As such the project has contributed to the Sustainable Development Goals described in Table 1.

Table 1. Sustainable Development Goals

Sustainable Development Goal and goals related to the Project[19]	Project Activities 2011-2017[20]	Relevant indicators (See sections 3.1, 4.3, 5.1 and Annex 6)
1 NO POVERTY • By 2030, ensure that all men and women, the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance. • By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.	• Delivery of land usufruct certificates to access bank loans for agricultural projects and for the establishment of electric connection projects. • COCOMASUR has made the necessary arrangements to expedite the implementation of state programs for access (right) to information and basic communication technologies, promoting compliance with internal requirements, adequate delivery of information and consultation with communities. • Generation of jobs within the project area and in protected areas. • Pilot project[21] in livestock reconversion through silvopastoral systems. • Rubber sowing project with the CAT Verde Vivo Environmental Technical Corporation.	• 78% of the COCOMASUR communities with Internet access. • 9 schools with Internet access. • 230 members of COCOMASUR with land ownership recognized and formalized by COCOMASUR. • 47 new jobs generated by the Project. • 58 new jobs generated by COCOMASUR. • 70 families benefited from the implementation of projects. • 5 food safety courses were taught.
2 ZERO HUNGER • By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen	• Food security is addressed through the creation of new productive and economic opportunities in the community. Furthermore, training courses have been conducted for the community through the National Education System of Learning (SENA). Topics include: • Hygiene and food handling.	• 70 families benefited with the implementation of food production projects. • 5 food safety courses were given.

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[19] Sustainable Development Goals, http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[20] See also Table 10 for more information on community impacts and sections 5.1 and 0 on biodiversity.

[21] Pilot project promoted by the National Education System of Learning (SENA).

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Sustainable Development Goal and goals related to the Project[19]	Project Activities 2011-2017[20]	Relevant indicators (See sections 3.1, 4.3, 5.1 and Annex 6)
capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.	• Raising pigs with alternative feed. • Basic bakery. • The recovery of local agricultural resources for sovereignty programs and food security in intercultural contexts. • Ecological production of vegetables. • Banana production and pig and cattle breeding with INCODER.	
• Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all. • By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.	• Although the educational infrastructure is a state responsibility, COCOMASUR carries out management and investments to complement it, promoting the integration of educational activities with community activities. • COCOMASUR promotes access to non-formal education programs. • Rescue of traditional sociocultural and production practices. • Conduction of intergenerational cultural conversations. • Cultural and gastronomic integration of family. This took place in the Local Council of San Miguel. • COCOMASUR goes on regional tours to share their experiences as a community facilitator in governance and community monitoring. • Territory reconnaissance walks promote and reinforce the sense of belonging and	• 2 infrastructure adjustments made. • 121 community members with access to non-formal education. • 9 community members with access to higher education (technical, technological or professional). • 26 cultural and intergenerational events organized or supported by COCOMASUR or local councils. • 21 territory reconnaissance walks. • 6 meetings to articulate teachers, communities and ethno-education.

Sustainable Development Goal and goals related to the Project[19]	Project Activities 2011-2017[20]	Relevant indicators (See sections 3.1, 4.3, 5.1 and Annex 6)
	strengthen the cultural identity, while allowing the surveillance of the land. • Meetings to discuss the articulation of teachers and the communities. These are carried out in compliance with Colombian legislation on ethno-education.	
5 GENDER EQUALITY • Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.	• Workshops on gender and territory have allowed the community to reflect on the role of women in community processes and in the territory. • Generation of jobs for COCOMASUR members, with equal gender opportunities.	• 47 jobs generated by COCOMASUR. • 26 community events to raise awareness of collective rights. • 9 gender and territory workshops.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION • By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.	• The territory reconnaissance walks promote and reinforce the sense of belonging and strengthen the cultural identity, while survey the land. • Workshop on monitoring and community forest management in the Amazon with emphasis on palms, and training day entitled 'National initiatives and their territorial impact on the management of natural forests in Colombia'. • Participation in workshops and discussions on natural resource management. Workshop[22] on re-conservation of cattle farming through silvopastoral systems.	• 12 regional, national and international events on Natural Resources Management. • 21 territory reconnaissance walks. • 1 workshop and 13 courses in agricultural techniques.

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[22] Pilot project promoted by the National Education System of Learning (SENA).

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Sustainable Development Goal and goals related to the Project[19]	Project Activities 2011-2017[20]	Relevant indicators (See sections 3.1, 4.3, 5.1 and Annex 6)
13 CLIMATE ACTION • Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	• Training in organizational coaching and project formulation. • Training in geographic information systems. • Participation in courses or seminars for trainers on governance and forest management with emphasis on REDD+ projects, economics and rural development. • Workshops with children on forest management and forest use. • Workshops on autonomy, mediation, ethno-development plans, prior consultation, gender and territory. • Monitoring of carbon parcels in the Project Area, in the leakage area and in the proxy areas. • GHG emissions avoided. • Forest monitoring routes, to locate possible focus of deforestation and verify that activities are not being carried out in a disorderly nor uncontrolled manner.	• 7 workshops for the COCOMASUR team. • 26 community events to raise awareness of collective rights. • The Project has avoided the emission of 435,288 tCO$_2$e GHG up to the end of this monitoring period. • 1 event measuring permanent vegetation plots in the Project Area, temporary plots in the proxy area, and measurement of degradation in the leakage area. • 251 forest monitoring routes.
15 LIFE ON LAND • By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, forests, wetlands, mountains and drylands, in line with obligations under international agreements. • By 2020, promote the implementation of sustainable	• Approaches with sawyers to reach non-deforestation agreements, clarifications of purchase or sale of improvements, use agreements, clarification of boundaries, difficulties due to tenure, occupation, use of natural resources, demarcations and recognition of possession. • Same as activities stated for SDG 12' • Management of the declared	• 49 legal affairs (conflict, mediation, boundaries, uses, complaints, among others) processed. • 2 declarations of protected areas and 1 conservation ratification. • 0 significant disturbances identified in the Project Area. • Non-fragmented forests. • 11 fauna and flora species in in threat categories.

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Sustainable Development Goal and goals related to the Project[19]	Project Activities 2011-2017[20]	Relevant indicators (See sections 3.1, 4.3, 5.1 and Annex 6)
management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally. • Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.	protected areas (2.2.5.5). • Forest protection. • Adaptation of two native, endemic or threated tree nurseries.	

2.2 Project Implementation Status

2.2.1 Implementation Schedule (G3.4)

Additional information, given in brackets "[ ]" this section, corresponds to support documents. This is confidential information and for the exclusive use of the auditing body.

Date	Milestone(s) in the project's development and implementation	Related project Activity
October 9th 2010	COCOMASUR Assembly: approval decision of the Project [case study p.26].	Strengthening local governance Land use planning
August 2010	Start of activities with monitoring patrols for control of territory (2.2.5.3).	Forest monitoring and patrols
August 2011	Participatory planning and collective vision workshop (in Sapzurro) [case study p.32].	Strengthening local governance Land use planning
December 6th 2011	Start of the first carbon inventory carried out by the forestry team. The forestry team consisting mostly of members of the community [case study p.48].	Monitoring of forest carbon stocks
February 14th 2012	Start of an agreement with Fondo Acción to increase administrative capacities of COCOMASUR [Certification agreement 010].	Administrative and financial best practices Internal transparency and accountability
April 2012	2nd evaluation and strategic planning meeting (Medellin) [case study p.36].	Administrative and financial best

Date	Milestone(s) in the project's development and implementation	Related project Activity
October 2012	The Project reported on in a Forest Trends publication: Experiences in Compensation for Environmental Services in Latin America (PSA or REDD+) [ForestTrends[23]].	practices Strengthening local governance
2012	NACLA publishes "Carbon-Offset Conservation in the Chocó" [NACLAReport (Spanne, 2012)].	
November 14th 2012	First verification by the VCS (monitoring period: October 18th, 2010 to June 15th, 2012)	
March 19th to 20th 2013	Third strategic planning meeting (Acandí) [2013:15].	Strengthening local governance Land use planning
June 11th 2014	COCOMASUR becomes the community facilitator for the BIOREDD+[24] program, sharing their experience and knowledge acquired during the Project with other communities. It is the only REDD+ project in the country [2014: 12].	Strengthening local governance Administrative and financial best practices
June 28th 2014	Semana magazine publishes an interview with the General Coordinator of COCOMASUR titled: The Guardian of COCOMASUR" [Semana_Sostenible[25]].	
March 2015	COCOMASUR receives the exemplary institution award (from El Colombiano regional press) in the environmental category for its management of protected areas in its territory [2015: 8E].	
June 1st 2015	Ecosystem Marketplace publishes: "Chocó Darien: What Forest Carbon Can (And Cannot) Achieve".[26]	
October 2015	COCOMASUR is a finalist for the 2015 United Nations Development Program's Equator Prize [Equator Prize 2015_Results].	
July 28th 2016	COCOMASUR continues as a community facilitator. It now carries out the regional tours to the Project and shares specific knowledge with the communities that make up the National REDD+ Strategy through an agreement with Fondo Acción [Z1:4F].	
October 18th to 21st 2016	COCOMASUR is invited to participate in a workshop (Advances of the National REDD Strategy) to contribute to the construction of a plan for the implementation of the strategy in other areas [2016:8B].	
November 8th to 12th 2016	COCOMASUR is invited to participate in the 22nd Conference of the Parties (COP22) to the United Nations Framework Convention on Climate Change (UNFCCC) [2016:19].	
November 18th 2016	The newspaper El Tiempo publishes an article: The Lessons of Acandí for the Conservation of the Jungles of Chocó.[27]	

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[23] Available at: http://www.forest-trends.org/documents/files/doc_3263.pdf.

[24] BIOREDD+ is the flagship environmental program of the United States Agency for International Development (USAID) in Colombia. Further information available at: http://bioredd.org/projects/.

[25] Available at: https://www.anthrotect.com/docs/Semana_Sostenible_20140628.pdf.

[26] Available at: http://www.ecosystemmarketplace.com/articles/choco-darien-what-projects-can-and-cannot-achieve/ and http://www.v-c-s.org/choco-darien-what-projects-can-and-cannot-achieve/.

Date	Milestone(s) in the project's development and implementation	Related project Activity
January 23rd 2017	COCOMASUR continues as a community facilitator in governance and community monitoring by giving regional tours of the Project to communities that belong to the National REDD+ Strategy. This is in agreement with FAO [Z1:3N].	
March 1st 2017	Creation of the Standard Operating Procedure (SOP) for training and capacity building for local communities [SOPCapacitacion REDD].	Forest monitoring and patrols
April 6th 2017	Mongabay publishes: Successful Colombian Rainforest Project Exposes Problems with Carbon Emissions Trading.[28]	Strengthening local governance Administrative and financial best practices
April – June 2017	Second monitoring of forest carbon stocks and soils.	Forest monitoring and patrols
June 2017	COCOMASUR and the eight BIOREDD+ projects form the REDD+ Pacific portfolio [2017:45A].	Strengthening local governance Administrative and financial best practices
November 2017	COCOMASUR signs memorandum of understanding for negotiations on the sale of carbon certificates with Colombian business group [2017:45B and 45C].	Strengthening local governance Administrative and financial best practices
November 2017 – January 2018	Community monitoring of Biodiversity Indicators.	Forest monitoring and patrols

2.2.2   Methodology Deviations

There are no methodology deviations.

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[27]   Available at: http://www.eltiempo.com/vida/ciencia/acandi-tiene-una-comunidad-que-ensena-a-conservas-las-selvas-32624.

[28] Available at: https://news.mongabay.com/2017/04/successful-colombian-rainforest-project-exposes-problems-with-carbon-emissions-trading/.

2.2.3 Minor Changes to Project Description (*Rules* 3.5.6)

2.2.3.1 Updates in the community indicators

On January 26th and February 15th 2012, the English and Spanish versions of the Project Design Document (PDD), which were validated in February of the same year, were delivered to CCBS. In it a period of 12 months was given to present the monitoring plans to measure impacts on the community, biodiversity and carbon stocks.

On February 7th 2013 the document with the monitoring plans was delivered to CCBS. The social impact-monitoring plan was designed based on Social Impact Assessment and Biodiversity Assessment (BISS) methodology. Monitoring was conducted under the Theory of Change or Causal Model and activities were grouped into four areas: strengthening of governance and cultural identity; greater food security, wider livelihood alternatives and increased well-being.

At the time, the monitoring process was new to all parties as it was the first time that an Afro-Colombian community had implemented a REDD+ project in a collective territory[29]. As a result, some activities were planned with different expectations and aspirations and have since been adjusted given their experience.

As stated in the social impact-monitoring plan, "theories of change will be reviewed and adjusted as necessary during the life of the Project and as the activities change" and "more appropriate indicators will be identified and incorporated".[30]

Consequently, it is necessary to propose a new set of indicators. This proposal uses some indicators that have already been approved, some new ones and the removal of others. This will result in more precise and accurate indicators to measure the impacts that the project wants to have in the specific ethnic context. Similarly, a new strategy is proposed for Focus 4: Improvement in well-being.

Annex 1_CommunityIndicators

2.2.3.2 Updates in the Biodiversity monitoring plan

According to Rascón-Manquero (2010), monitoring aims to direct the execution of a project towards its purpose and detect any issues that could negatively effect the desired results. In the case of the Biodiversity Monitoring Plan, this task requires a periodic follow-up of four taxonomic groups found in the Project Area (flora, birds, beetles and macroinvertebrates), allowing a comparison to be made between the established conservation goals and the actual results. Due to the characteristics of the Project, the monitoring plan is set up to provide a permanent feedback from the lessons learned in the field by the community, who has made the decision to be an active actor in the implementation of the different monitoring strategies. Ultimately, the hope is for the Monitoring Plan to be in a state of constant

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[29] Collective territories are granted in Colombia to community councils of black communities by virtue of their ancestral occupation and their traditional uses (Law 70, 1993)

[30] Pages 5 and 7 of the Monitoring Plan validated by the CCBS in February 2013.

improvement up to the point where the community has the technical capacities to carry out the tasks required on their own, at the same time of collecting robust data to assess the real impacts on biodiversity in the area. For the present period, the monitoring plan has been slightly revised (Annex 2_UpdatedBiodiversityMonitoringPlan), however, neither its objectives nor its variables have not been changed since the initial Monitoring Plan validated in 2013 (*Annex 5_CCBMonitoringPlans_2013*).

Ultimately, the hope is for the Monitoring Plan to be in a state of constant improvement up to the point where the community has the technical capacities to carry out the tasks required on their own. In the meantime, trained individuals are collecting hard data to assess the real impacts on biodiversity in the Area.

2.2.4 Project Description Deviations (*Rules* 3.5.7 – 3.5.10)

There are no project description deviations.

2.2.5 Risks to the Project (G3.5)

2.2.5.1 Post-conflict and security

The Project strengthens communities through the appropriation and recognition of their own territory and can thus be seen as contributing to resolving post-conflict issues. A strong community minimizes the risks posed by the presence of armed groups and other security issues in the area. The specific project activities that address these issues are listed below:

- Eight workshops on forest use and management were conducted for young people and children. Four workshops on ownership and collective rights to strengthen the appropriation of the territory. Approximately 243 people participated, and the workshop was conducted within the framework of the Rescue of Practices Project. Sociocultural and traditional production workshops were financed by the Colombian Family Welfare Institute (ICBF) [2015: 13C p.36 – the physical attendance lists are available].

- Nine workshops focused on gender and territory were carried out [2014: 17] as part of the Resolution of Land Conflicts and Natural Resources projects by Mercycorps. There was also a meeting with young people to encourage their participation in community activities and organizational strengthening, it was attended by 23 young people, of which 17 were women [2016: 33]. In addition, the workshops and trainings, listed in section 2.2.7.2, have strengthened the administrative base of the territory.

- 105 new jobs have been created, 47 in the Project and 58 in protected areas. COCOMASUR is the ethnic territorial authority in these areas and so manages them through agreements with the environmental authorities. These agreements will be described in section 2.2.5.5. As a result of these new jobs the communities are more resilient in the face of armed groups which increases the durability of peace.

- A lack of clarity over some land ownership and boundaries in areas surrounding the project creates vulnerable situations for some inhabitants and, therefore affects the stability of the project. In order to address this COCOMASUR has coordinated with the Colombian state to make the necessary clarifications for these disputes. A process was initiated with the Colombian Institute of Rural Development (INCODER), in which the situation was presented to different governmental entities [2013: 47, 2014: 10]. However, as a result of delays by INCODER (which liquidated in 2016), other alternatives were sought. These were covered by the legislation for the restitution of territorial rights and reparation to victims. For territorial rights, The Unit for the Restitution of Land (URT) (part of the Ministry of Agriculture), in compliance with Decree-Law 4635 of 2011 on the collective restitution of territorial rights for Afro-Colombian communities[31], provided the necessary information.

    The process has yielded positive results. Firstly, on April 24th 2017, the civil court of the Specialized Circuit in Restitution of Lands of Quibdó, Chocó, gave instructions to national, departmental and municipal institutions, on how to protect all community members and monitor unjustified actions on the natural resources and the territory. COCOMASUR had requesting this information on the restitution process since 2015 [2015: 15, 2016: 35; 2017: 62].

    Secondly, the Ministry of the Interior, as stated in T-025 of 2004 of the Constitutional Court[32], addresses the structural problem of attention given to the forcibly displaced population. Displacement occurs more amongst more vulnerable groups such as female heads of household, young people, senior citizens and ethnic groups. This is specifically addressed in the 005 of 2009, which states the need to protect the fundamental rights of the Afro-descendant population. As a result, the Ministry of the Interior was ordered to design and implement a plan to characterize the collective and ancestral territories (Auto 005 of 2009) [2017: 64].

- Tibirre and Titiza are two of the local councils that form part of COCOMASUR. Mining in Tibirre and Titiza is carried out through a combination of traditional and mechanized methods. The traditional method is to extract using pan, alongside engines and mini dredges for the removal of land in some areas. The necessary steps have been taken to formalize the mining permitted by these local councils. Mining is an ancestral economic activity but those who have practiced it more recently are at risk of it being classified as illegal as a consequence of Colombian regulations. COCOMASUR is in the process of the formalization and establishment of a special reserve area recognised by the National Mining Agency. These areas are restricted to places in which traditional exploitation has been practiced and where geological studies are carried out and social and environmental impacts are recorded [2013: 2y3; 2014: 26C and 8; 2015: 2; 2016: 0].

Finally, it is important to note that the political conditions in the country have changed as a result of the recent signing of the final Agreement for the Termination of the Conflict and the Construction of a Stable and Lasting Peace[33]. The agreement was signed by the Colombian government and the

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[31] Restitution of ethnic collective rights: Decrees - Law 4633 and 4635 of 2011. Available in: https://www.restituciondetierras.gov.co/documents/10184/34449/Restituci%C3%B3n+de+derechos+territoriales+%C3%A9tnicos+Decretos+-+Ley+4633+y+4635+de+2011/8809d630-8c57-45bc-bbe0-e96f3badc59f

[32] Sentence available in: http://www.corteconstitucional.gov.co/relatoria/2004/t-025-04.htm.

[33] Agreement available in: http://www.altocomisionadoparalapaz.gov.co/procesos-y-conversaciones/Documentos%20compartidos/24-11-2016NuevoAcuerdoFinal.pdf

Revolutionary Armed Forces of Colombia (FARC). It forms the foundations for the creation of programs and projects in the territories most affected by the presence of armed groups. It also aims to improve security, increase investment and be sustainable. In order to comply with integral agrarian development, decree 893 of 2017 was issued which resulted in the formation of Development Programs with a Focus on Territory (PDET). PDET is a "planning and management instrument to implement, as a priority, the sectoral plans and programs in the framework of the Integral Rural Reform and the measures of the Agreement. These will be valid for 10 years and must be coordinated by the Agency for the Renewal of the Territory ART (Decree 893, Article 1). This Decree stipulates the development of 16 PDETs, one of them in the Chocó sub region. It includes 12 of the municipalities of Chocó, among them Acandí, and two municipalities in Antioquia. On October 19th and 20th, we attended the sharing of this plan and the 16 Special Transitional Circumscriptions of Peace CETP (which will elect 16 Representatives to the House of Representatives, temporarily and for 2 electoral periods) [2017: PDET].

2.2.5.2 Corruption and mismanagement

The learning and strengthening of administration by COCOMASUR began with the support from the Fund for Environmental Action and Children and Fondo Acción, through the execution of two agreements between 2012 and 2013. These agreements were for the generation of administrative and technical capacities, and to strengthen leadership and management capacity through the Harmos program [Z1: 4A and 4B]. Such learning opportunities increased from the need to find financial resources for the implementation of the project (expanded in 2.2.5.5).

The result of this management became slowly, but increasingly visible. This is evidenced by the fact that COCOMASUR was strengthened to such an extent that it executes project activities and manages other allies required to acquire spaces and resources for the training. The rented headquarters of COCOMASUR now provide a point of contact where any community member or person can go in search of information or help on various issues. Mobile telephone plans with data were acquired, Internet was installed in the office to improve the operation and communication with the communities, and an accounting software was purchased to allow for the orderly registration of resources [Z1: 1A; Z1: 2; 2103: 42].

As a result of these improvements, COCOMASUR autonomously manages and administers its resources and executes agreements and projects with other institutions (see more information in section 2.2.5.5). The communities are kept up to date through general and local assemblies (see sections 2.3.1 and 2.3.3) and tax reports are presented in compliance with Colombian regulation (payment supports are available in the field for the auditing).

Additionally, in 2013 a mechanism was created for the collection and processing of petitions, complaints, claims and suggestions. This, together with the procedure of mediation and resolution of intra-community conflicts, serve as a guide to deal with situations that arise in the territory from those to do with natural resources to COCOMASUR's internal issues (support in section 2.3.4: [2013: 43; Procedure]).

2.2.5.3 Illegal logging

The problem of illegal logging is widespread in the department of Chocó and has been known to occur in the municipality of Acandí. Although its regulation is the responsibility of the national government, COCOMASUR, exercising its right as an ethnic territorial authority, has taken measures to mitigate the problem by controlling the use and commercialization of wood within the territory.

- Jobs have been created for some loggers. These jobs have made it possible to use the logger's extensive knowledge of the forest to serve the community goal of conservation.
- The forest team of the project carried out 251 forest monitoring trips [AZs carbon] to locate possible focal areas of deforestation and verify that activities are not being carrying out in a disorderly or uncontrolled manner. [2013: 52A to 52E, 2014: 42A to 42D, 2017: 81], Five trips were followed up with checks to ensure that illegal activities had stopped and, if not, the appropriate procedures, as stipulated by COCOMASUR, were started. When illegal logging is discovered, the location is registered and geo-referenced. Those in charge are then invited to a mediation and, if it is not possible to stop the activity, the environmental authority is informed [supports in section 2.5.4]. Furthermore, measures such as Resolution 0660 have been implemented as a preventive measure, it requires the immediate suspension of indiscriminate burning and profits from illegal forestry.
- The governance team worked to achieve rapprochement, both with loggers and their families, by creating mutual understanding and finding solutions. Eight meetings were organized to clarify, translate or endorse agreements [2013: 5C to 5E; 2014: 37A - 2016: 6 and 41].
- There have been 21 territory reconnaissance walks to survey. These walks served to strengthen the communities' sense of ownership of their territory, as will be expanded upon in later sections. The walks also served to monitor and stop prohibited activities such as illegal logging [2013: 23; 2014: 6; 2015: 1B, 1I, 13D and 31; 2016: 9D; 2017: 7A].
- The resolution for the sustainable use of wood in the project zone was obtained in 2015. This compensated some community members who depended on illegal logging. It also mitigates the risks or threats generated by merchants of illegal logs in the region [2015: 25]. This measure keeps effective control but also addresses the needs of some members. As such, COCOMASUR granted four logging permits for domestic use [2014: 43A, 2016: 38A, 2017: 7B and 7C], two permits for commercialization [2014: 43B, 2017: 7D] and 16 for wood mobility. Permits were also granted for family owned within the territory [2016: 41], protected by the aforementioned resolution.
- The National Learning Service (SENA) was asked to begin a process of complementary training in Forest Management and Establishment of Nurseries with the aim of improving harvesting practices. However, it has not yet been possible to start since SENA's requirements are not adjustable to meet the specific needs and differences of the Afro-Colombian community. For example, SENA requires that participants have completed the cycles of formal education, which is not the case for all community members [2013: 5A and 5B].

2.2.5.4 Opportunity costs of REDD

COCOMASUR decided that the first resources acquired from the sale of the credits would be used to pay off the debt they have as a result of the initial investments for the project [2013: 19, p.3] and for the

implementation of activities. In addition, COCOMASUR directed a large part of the resources to the management of agreements and projects, and the communities' expectations with respect to the CCCHD project. In the short term this resulted in the search for energy solutions, productive alternatives, provision and improvement of telecommunications services (particularly Internet), improvement of infrastructure, credit for production, as well as a spokesperson or representation in decision-making spaces in which the opinions of the communities were previously not taken into account.

Because of the project, resources have been provided for mobility, representation, production of information (to support requests such as those of INCODER and URT) and access to information. The acquisition or provision of infrastructure enables the operations described, alongside a team that tracks the needs of the communities. Additionally, the project facilitated the generation of 47 direct jobs[34] and a further 58 as part of execution agreements that are described in section 2.2.5.5.

bility of REDD offsets

of the project, it was agreed that "income in the form of grants or donor funding could be to ensure that unanticipated levels or fluctuations in the demand for carbon credits do not threaten project activities" given that carbon markets are in the early stages of their development. In effect the economic resources were limited so additional steps were taken by COCOMASUR. These efforts were possible given the organizational strengthening achieved by that time. Illustration 2 summarizes the process to achieve the project's objectives.
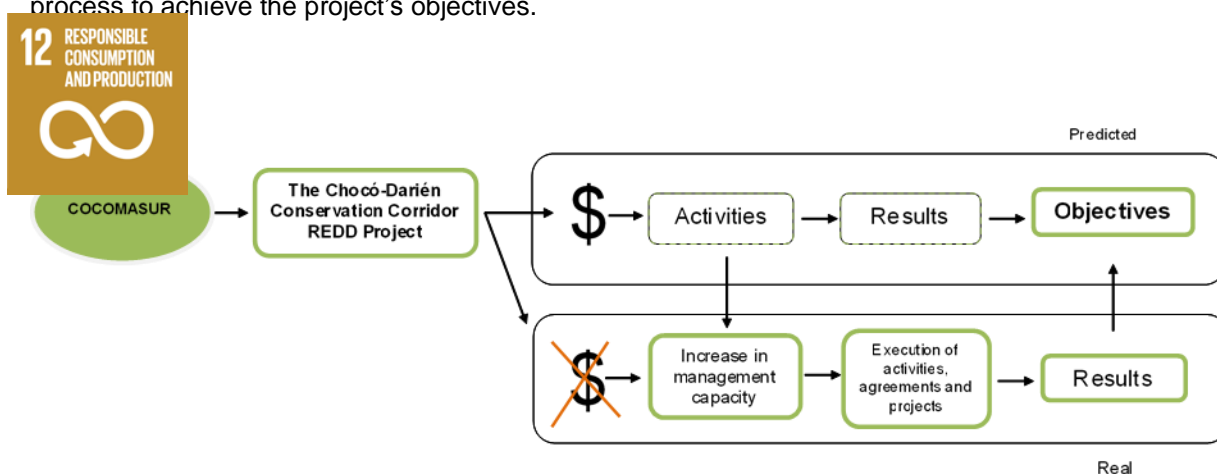
Illustration 2. Graphic summary of the flow of events to achieve project objectives

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[34] All signed contracts are considered direct jobs, as each contract represents a job opportunity that did not exist in the municipality.

Given their increased administrative and management capacity, COCOMASUR has sought the resources to have a sufficient income flow to carry out the project activities. COCOMASUR has done this through the execution of various agreements and projects, to which it has contributed labour, equipment, experience and physical infrastructure [Z1:3A a 3O and 4A a 4J]. The agreements and projects are outlined below.

- Agreements were executed with the regional environmental authorities and national authorities for the management of other areas belonging to the National System of Protected Areas; these areas surround the Project Area: agreements with the Regional Autonomous Corporation for Sustainable Development (CODECHOCÓ) in related to the Regional District of Integrated Management (DRMI) La Playona Loma La Caleta, and with National Natural Parks (PNN) for the Acandí, Playón and Playona Wildlife Sanctuary (SFAPP) which has among its objectives the conservation of sea turtles (Cana and Carey).
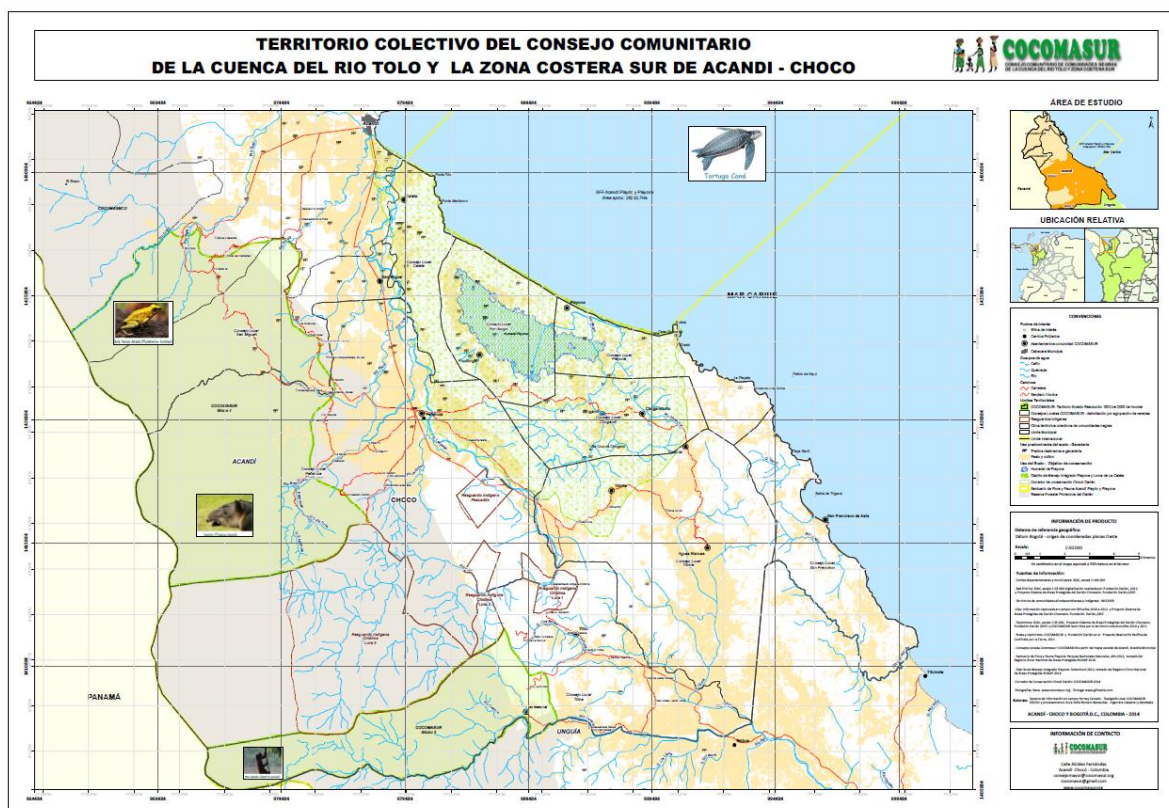
Illustration 3. Collective and ancestral territory COCOMASUR

- For the implementation of the strategic plan defined in the DRMI agreements were signed in 2013, 2014 and 2017. This plan included area declaration and the gradual implementation of the management plan as planning instruments to guide conservation management. In the SFAPP association agreements were signed in 2014, 2015, 2016 and 2017. The intention with SFAPP was to generate information that contributes to the knowledge of the biological dynamics of the

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turtles. This information could then be used as an input for decision making in the management of the area and for the preparation of a monitoring program of the SFAPP. In the last two years, the agreements focused on combining technical, human, economic and installed capacity efforts to monitor turtles. They also included an agreement that was signed to lay the foundations for the development of ecotourism. This ecotourism would be built around seeing sea turtles in the SFAPP, with the Office of Services for Projects of the United Nations (UNOPS), through the Program Small Grants (PPD) from the Global Environment Facility (GEF).

- In 2015, a project was carried out with the Colombian Family Welfare Institute through the Ethnic Territories with Welfare Modality. The project was called the Rescue of Sociocultural Practices and Traditional Production and it facilitated the monitoring of the forest. Through the territory reconnaissance walks, the execution of two agreements with Fondo Acción and one with the Food and Agriculture Organization of the United Nations (FAO) COCOMASUR was able to share its experience and knowledge in the implementation of REDD+ projects with other communities. This knowledge sharing was delivered in the framework of the design of national policies for mitigation and adaptation to climate change in Colombia.

- Two more agreements were carried with Fondo Acción in 2017. The first was for the realization of the forest inventory and the other for the monitoring of biodiversity. In addition, a donation was received to carry out various activities necessary for this monitoring.

The agreements or contracts with the aforementioned allies are presented in Table 1 and Table 2.

Table 2. Summary of agreements with the ally Fondo Acción

Year	Agreement / date	Objective summary	Support
2012	010 / 14-02-2012 to 30-04-2013	Complete the design phase of the project and generate administrative capacities	[Z1:4A]
2013	Harmos / 26-10-2012 to 26-07-2013	Strengthen leadership and management capacity	[Z1:4B]
	Experience systematization / 16-12-2013	Record the knowledge and experiences resulting from the project	[Z1:4C]
2014	023 / 11-06-2014	Community facilitator for BIOREDD+[35]	[Z1:4D]
2015	006 / 20-04-2015	Economy school	[Z1:4E]
2016	020 / 28-07-2016	ENREDD+[36] facilitator and completion of tours of the project	[Z1:4F y 4G]
2017	010 / 8-03-2017	Another measurement of the carbon inventory	[Z1:4H]
	038 / 6-07-2017	Other activities for verification	[Z1:4I]
	054 / 07-12-2017	Monitoring of biodiversity	[Z1:4J]

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[35] BIOREDD+ is the flagship environmental program of the United States Agency for International Development (USAID) in Colombia. Further information available at: http://bioredd.org/projects/.

[36] National Strategy for Reducing Emissions from Deforestation and Forest Degradation ENREDD +, Colombia.

Table 3. Summary of agreements, contracts and agreements with other partners

Year	Institution, ORG or program	Convention, contract or agreement / date	Objective summary	Support
2013	CODECHOCÓ	013 / 08-11-2013	Implement the strategic plan defined in the DRMI declaration	[Z1:3A y 3B]
2014	CODECHOCÓ	008 / 2014	Gradually implement the DRMI management plan	[Z1:3C y 3D]
	PNN	011 / 13-11-2014	Generate information for decision making in the SFAPP	[Z1:3E y 3F]
2015	PNN	001 / 04-03-2015	Continue to collect information that contributes to increasing knowledge of the biological dynamics of sea turtles in the SFAPP	[Z1:3G y 3H]
	ICBF	227 / 01-10-2015	Project to rescue traditional cultural and production practices	[Z1: 3I]
2016	PNN	002 / 10-05-2016	Monitoring of turtles in the SFAPP	[Z1:3J y 3K]
2017	PNN	005 / 24-05-2017	Monitoring of turtles in the SFAPP	[Z1: 3L]
	CODECHOCÓ	025 / 29-12-2017	Gradual implementation of the DRMI management plan	[Z1: 3M]
	GEF Global Environment Fund	10-03-2017	Bases for the development of ecotourism: seeing sea turtles	[Z1:3]
	Food and Agriculture Organization of the United Nations FAO	23-01-2017	Conduct regional tours for communities from the National Strategy ENREDD+	[Z1:3N]

As a result of these agreements, the project teams have continued to operate, and the main project activities have been carried to reach their objectives. Simultaneously, COCOMASUR has become the role model to be followed by other communities in the country. Some members have shared their experience of the project at national events and during regional tours. In addition, given the high level of transparency and accountability, trust has been generated in national institutions and companies which has resulted in the creation of alliances and agreements. An example of this is the inclusion of the CCCHD project in the REDD+ Pacific portfolio together with the eight projects that belong to the old BIOREDD+[37] portfolio. The experience of the implementation of the project was also shared in the framework of the National REDD+ Strategy.

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[37] BIOREDD+ is the flagship environmental program of the United States Agency for International Development (USAID) in Colombia. Further information available at: http://bioredd.org/projects/.

With Fondo Acción as an intermediary, an agreement was reached with 21 communities grouped in the nine projects and the Ministry of Environment and Sustainable Development. This agreement was for a proposal to the Sustainable Colombia Fund to obtain resources for the ne verifications. This fund was recently created by the national government for the implementation of the peace agreements. It will have resources from the governments of Sweden, Switzerland, Norway, Germany and the United Kingdom, and other private organizations.

There have been important changes in the Colombian political situation that have an impact on the consolidation of strategies to mitigate climate change. As one of the mechanisms for compliance with the commitments made by the Colombia at COP21, a carbon tax was established in 2016. Companies that are required to offset their emissions can do so with the purchase of carbon certificates. This generates an opportunity for the sale of the carbon credits generated by the REDD+ projects in the national market. Progress was also made towards the establishment of commercial alliances by the signing the first agreement for future sale of certificates between the communities of the Portfolio REDD+ Pacífico and Prodeco (a mining group) [Bulletin Fondo Acción] (Illustration 4).

Illustration 4. Launching of the Colombian Carbon Tax with representation of the Project Coordinator, Everildys Córdoba

These changes are crucial for the viability of compensation through REDD+ initiatives. COCOMASUR has played an important role as the first community to successfully implement a REDD+ project in the country.

2.2.6   Enhancement of High Conservation Values (G3.6)

Video: Cocomasur - APC Colombia en Acandí

The monitoring carried out by the forestry team of the project, as well as the reconnaissance walks in the territory, have had many positive effects. They have allowed the protection of continuous coverage, avoided the conversion of the forest to other land use, preserved the main river sources that supply the communities and maintained the connection with the Darién National Park. All of this has contributed to the maintenance and improvement of HCV 1 to 5.[38]

HCV 6[39] has received special attention during this monitoring period as it supports the maintenance of the other communities. This is because the communities execute all the actions necessary for conservation, which are based in strengthening their link with nature. On the one hand, consultations and decisions making with communities and the local councils meetings (supports in 4.3.2.1) give meaning and dynamism to the organizational structure of COCOMASUR. This contributes to the strengthening of territorial governance and identity through the exercise of autonomy. On the other hand, the conservation of the forest the associated activities that are carried out by the community strengthen their cultural identity which is so intrinsically linked to nature. These activities include walks, workshops on collective and territorial rights, ethno-development plans and prior consultation (workshops mentioned in section 2.2.5.1), It is worth noting that community members of all ages participate in the walks, which promotes the transmission of knowledge between generations.

The UN General Assembly defined the conservation of the environment as one of the principles of COCOMASUR [Statutes, p.2]. Within this, hunting and logging are permitted only for domestic consumption, as it is a traditional. Similarly, mining has been permitted, but only in the traditional way in the local councils of Tibirre and Titiza [2013: 4B; 2015: 1J and 1H p.3]. This contributes to the strengthening of identity through the maintenance of customs, the conservation of natural resources and, therefore, the protection of wildlife present in the area.

Meetings have been held with the loggers who can extract wood from specific areas and only in certain volumes. Meanwhile specific productive alternatives are being generated, as well as the other measures described in section 2.2.5.3. Prohibited mining in areas surrounding the Project Area has been stopped. Mining had been occurring as a result of a belief that there was a lot of gold the municipality of Acandí. This will be expanded upon in section 2.5.4.

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[38] HCV 1: Significant global, regional or national concentrations of biodiversity values. HCV 2: Large forests at landscape level significant globally, regionally or nationally. HCV 3: Forest areas that are in or contain rare, threatened or endangered ecosystems. HCV 4: Forest areas that provide basic services of nature in critical situations. HCV 5: Key forest areas to meet the basic needs of local communities.

[39] HCV6: Traditional cultural identity of local communities in critical forest areas.

Workshops were held with local councils to discuss water uses, difficulties experienced by users and ways to solve them. The main objective was to identify the effects that community's actions have on water, its sources and the forest as the provider[40] [2015:24].

2.2.7 Benefit Permanence (G3.7)

To maintain the benefits beyond the duration of the project the following measures were implemented:

2.2.7.1 Management for the improvement of telecommunications infrastructure

The right to access to information technologies and basic communications is recognised by the state (Article 2 of Law 1341 of 2009). As such, COCOMASUR has made the necessary arrangements to improve investments in infrastructure by the ANDIRED company. ANDIRED is implementing the National High-Speed Connectivity project on behalf of the Ministry of Information and Communication Technologies. The project aims to connect remote areas by providing their communities with Internet. It also requires that there is an agreement with local communities and local labour is hired [2016: 40A to 40C]. As a result, Internet coverage has reached 78% of the local councils. COCOMASUR has acquired and installed equipment to improve the signal in the local council of Peñaloza [2017: 23]. A request was also made for the installation of a Vive Digital point (as part of the same program) for the COCOMASUR office, from where the project activities are coordinated [2015: 12]. Given that there are still no results, the general coordinator managed on its behalf the acquisition of a quota in the line for households of the same connectivity program [contract].

Finally, the successful installation of the solar panels in the local councils of Tibirrre, Titiza and Furutungo, (supports in 4.3.2.4.3), supports improvements in connectivity as families can charge their electronics such as cell phones and computers.

2.2.7.2 Education and training

Investment in education and training, in addition to developing and strengthening the ability to execute the project, effect the management of the territory beyond the end of the project. This can be seen in influences in the daily life of the community members as a result of gaining new knowledge or recognition of existing knowledge, building and improving skills for participation in territorial processes and influence on their productive activities.

2.2.7.2.1 Education

61 COCOMASUR members, including 49 women, have taken short courses, technical and professional training. 29 courses have been taken in total; two on techniques in the operation of rural lodgings and in environmental management; one on technology in organic farming production; two undergraduate

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[40] These workshops were held within the framework of the degree work "Models of Management and Use of Water" of a master's degree student of the National University of Colombia, Medellín Campus.

degrees. The degrees were in ethno-education with an emphasis in social sciences and Anthropology (Table 4).

Table 4. Studies undertaken by COCOMASUR members during the current monitoring period.

Institution	Year	Course (study)	Assistants	Women assistants
National Learning Service (SENA)	2012	Entrepreneurship for chicken production and commercialization with alternative feeding and management systems	8	8
	2013	Customer Support	19	19
		Hygiene and food handling	19	19
		Integrated farm management in vulnerable communities	17	17
		Establishment of perennial crops with short-cycle crops	1	1
	2014	Raising pigs with alternative feed	2	2
Popular Training Institute, University of Antioquia, Museum of Memory	2015	Diploma in Memory: Territory, Peace and Development	1	1
SENA		Entrepreneurship awareness	2	2
		Good farming practices	12	12
		Entrepreneurship and customer service	18	18
		Good practices in sustainable tourism for tourism guides	19	19
		Identification, promotion and sale of a tourist product	17	17
		Basic bakery	16	16
	2016	Innovative entrepreneurship	4	4
		Ecological management of pests in crops	10	10
		Entrepreneurship in the establishment and marketing of perennial crops	7	7
		Design, construction and maintenance of fish ponds	5	5
		Marketing and entrepreneurship for productive units	3	3
		Marketing and sales	5	5
		Recovery of local agricultural resources for sovereignty and food security programs in intercultural contexts	5	5
		Soil sampling and fertilization of pastures and forages	5	5
		Archiving	1	1

Institution	Year	Course (study)	Assistants	Women assistants
Missionary Institute of Anthropology, Universidad Pontificia Bolivariana		Operations in rural accommodation	1	0
		Ecological agricultural production	1	0
		Degree in ethno-education with an emphasis in social sciences	2	2
SENA	2017	Production organic of vegetables	87	78
		Integrated management of pests, diseases and weeds in agricultural crops	18	16
		Promotion of good health practices and prevention of bad ones	13	10
		Emergency care and management	10	3
		Technician in Environmental Management	5	5
WWF, GEF and others		Microenterprise strengthening and local development	2	1
INDESCO, continuous training		Basic course on solidarity economy	5	5
Aviatur and others		Entrepreneurship to strengthen tourism	9	9
Universidad de Antioquia	2017	Anthropology (in progress)	1	0
Summary				
Total courses and programs of higher education			34	
Total people trained			127	
Total women trained			108	

In compliance with Colombian law, universities must open special access programs to ethnic communities. To access this, COCOMASUR provided the necessary guarantees and nominated nine community members to apply to the University of Antioquia. In the second semester of 2016 and the second of 2017, one person was accepted to study Anthropology at undergraduate level, he is a member of San Miguel's local council and thus was a part of the project's social team [2016: 21A and 21B, 2017: 61A and 61B].

The women who did technical training in Environmental Management at the National Service of Learning (SENA), did their work placements with COCOMASUR [2016: 20A to 20M, 2017: 60A and 60B].

A limiting factor for studying with SENA is that the offer has been focused on urban areas and more populated areas such as Caleta, San Miguel and Peñaloza. For this reason, the most remote rural communities have been unable to access these educational opportunities given that enough students registered to merit sending instructors to these sites. To overcome this difficulty, COCOMASUR has made attempts to approach SENA both to review the offer and its relevance, and to define a way to include the stakeholders from other local councils. It is because of this initiative combined with the strong

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will of an instructor, that in 2017 it was possible to reach the more remote local councils [2013: 38; 2017: 78].

2.2.7.2.2   Training

Workshops have been held on issues such as territorial autonomy, mediation, leadership, gender and territory, control and surveillance of the territory, monitoring and measurement, GPS management and Geographic Information Systems (GIS) (including the management of the ARCGIS program), inventory methodologies for forestry and forest monitoring (Illustration 5). In addition, COCOMASUR members attended a workshop on ethno-development plans and another to increase knowledge of the procedures of prior consultation. Training in the use of SIIGO accounting software was received as part of its acquisition.

Illustration 5. Gender and territory workshop at the local council of Chugandí

The general coordinator, who is also recognized as an important community leader, has participated in several professional development courses that have strengthened her abilities. For example, the Training for Trainers in Governance and Forest Management with emphasis on REDD+, which is an international course; Pacific Power School of Economics, a member of the board of directors also participated; and at the international seminar on Construction and Rural Development.

Table 5 summarizes the training that COCOMASUR members have received during the current monitoring period.

Table 5. Workshops, trainings and seminars attended by COCOMASUR members during the current monitoring period

Year	Training	Assistants	Leader	Support
2013	Training in the use of GPS	9	COCOMASUR	[2013:34]
	Community mediation and leadership	19	COCOMASUR	2013:39B]
	Autonomy of territory	24	COCOMASUR	[2013:39C]
	GPS management	7	COCOMASUR	[2013:39D]

Year	Training	Assistants	Leader	Support
	Measurement and handling of formats for data collection	14	COCOMASUR	[2013:40]
	GPS management and VCS monitoring	7	COCOMASUR	[2013:39A]
	International course on governance trainers	1	CATIE, BMZ Y GIZ	[2013:36]
	Organizational coaching	8	Fondo Acción	[2013:37]
	SIIGO accounting software	1	Informática y Gestión S.A.	[2013:42B]
	Deforestation monitoring	6	Mauricio Salazar	[2013:39E]
	Forest measuring instruments	5	COCOMASUR	[2013:39E]
	Carbon inventory measurement methodology	5	Mauricio Salazar	[2013:39E]
	Re-measuring leakage plots	5	Mauricio Salazar	[2013:39E]
2014	Ethno-development plans	8	Interconexión Eléctrica S.A.	[2014:4A]
	Prior consultation	9	Interconexión Eléctrica S.A.	[2014:4B]
	GPS and community mediation	21	COCOMASUR	[2014:15]
	Local coordinators and mediators	16	Mercy Corps	[2014:16]
	Gender and territory (nine workshops, one per local council)	ND	Mercy Corps	[2014:17]
2015	Control and surveillance in forest management	20	COCOMASUR	[2015:20]
	Geographic Information Systems (GIS)	6	Ingenieros Univ. Nacional	[2015:22]
	Economics	2	Manos visibles y UniAndes	[2015:8B and 8C]
2016	International seminar on rural development	1	Ministerio de Comercio China	[2016:22A a 22C]
	News formats	2	Fondo Acción	[2016:44A and 44B]
2017	Forest inventory and forest management methodologies	12	COCOMASUR y Fondo Acción	[2017:58A to 58D]
	Restore livestock workshop	16	COCOMASUR	[2017:79B]
Summary				
Total Workshops		33		
Total Qualified Persons		98		
Total Qualified Women		36		

2.3 Stakeholder Engagement

2.3.1 Community Consultation (G3.8)

One of the statutory rights of the members of COCOMASUR is to have access to all the information from the different bodies [Statutes: numeral 9 of article 13], which is fulfilled in both local and general assemblies. It is a guiding principle to maintain communication throughout the COCOMASUR to keep the communities, who are the project owners, informed.

In March 2013, COCOMASUR and Anthrotect met to carry out the strategic planning of the project [2013: 15A and 15B]. During this meeting commitments for its execution were made. However, over time it was the COCOMASUR that assumed leadership of all aspects of the project. That said, the board of directors and the general coordination continued to meet to monitor the status of the Project and the commitments made by Anthrotect, who attended some of the meetings [2013: 17AyB, 18AyB, 19, 24; 2014: 30; 2015: 26 and 27; 2017: 46A].

In 2013, given insufficient resources to carry out all project activities, the board of directors instructed the general coordinator to seek new alliances. The board also instructed that the project would operate with the minimum personnel required to carry out only the most important activities [2013: 18B p.2-3]. From 2013 until the end of the current monitoring period, COCOMASUR has made the calls and communicates information about the Project, so a communication plan with the project proponent has not been necessary.

COCOMASUR has reaffirmed its commitment to the project, despite the fact that the flow of resources has not been what was expected (Illustration 2). Through the strength and commitment of its community, COCOMASUR has found different ways to continue with the implementation of activities. The support given by the Fondo Acción, propitiated the necessary administrative growth that has facilitated the reported results.

2.3.2 Public Comment Period Publicity (G3.9)

Printed copies of the document summary were distributed in the community along with meetings and discussions at each local council. These were led by the COCOMASUR work teams and questions were resolved and comments collected; however, only suggestions for future activities were received[41] and no comments were added to the VCS platform.

Additionally, the notification of the public comment period was published on social networks of COCOMASUR in May-08 of 2018. A total of 114 visits on Facebook and 281 on Twitter were recorded.

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[41] The Annex 11_DisseminationMonitoringResults contains a Spanish summary of the developed workshops.
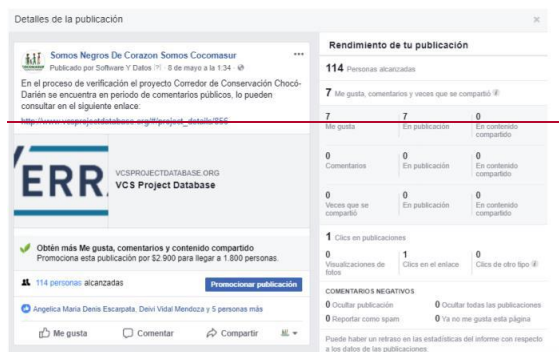
2.3.3   Distribution of Project Information (G3.9)

Project information was distributed through meetings or local assemblies, general assemblies or board meetings [2013: 14A to 14E - 2014: 31A and 31B - 2016: 31A to 31E and 31H].

Additionally, the local coordinators from each local council, were trained in how to make the flow of information most effective (as stated in section 2.2.7.2). This training included the distribution of information in each local council, as well as how to collect concerns and suggestions and encourage participation in the various activities [2014:26A, 26B, 26E and 26F].

The exercise of follow-up and decisions made by COCOMASUR's board of directors, (as mentioned in section 2.3.1), confirms that the management, planning, monitoring and information of the CCCHD project was led by COCOMASUR at all levels. That is to say that decision-making, strategic planning and execution, was carried out by the board of directors and the general coordination.

It is important to note that the flow of information has been streamlined given improvements in the telecommunications infrastructure described in section 2.2.7.1. Increased Internet access has improved communications significantly as the mobile phone signal for COCOMASUR's communities had been so poor.

2.3.4   Conflicts and Grievances (G3.10)

The statutes and internal rules of COCOMASUR provide the main guidelines for dealing with conflicts and grievances. Specific procedures are outlined in the Mechanism of Petitions, Complaints, Claims and Suggestions and the Procedure of Mediation and Resolution of Intra-Community Conflicts. Both documents are the guiding instruments for receiving, resolving and following up on situations that may arise in the territory [2013: 43; Process].

During the present monitoring period, the general coordination has led the reception, identification and mediation of conflicts and grievances. This is because the COCOMASUR office, which located in Acandí,

has become a point of reference for community members where issues from the Project Area and its surrounding areas. As a result, COCOMASUR's credibility as an autonomous ethnic authority with in the territory has increased both for its members and the inhabitants of the rest of the municipality. This has also meant that cases are received directly by COCOMASUR and do not through the municipality's control office as initially proposed.

Table 6 demonstrates the cases processed during the monitoring period.

Table 6. Cases processed by COCOMASUR during the current monitoring period

Case / Follow up	Year	Quantity	Total	Support
Approach with loggers	2013	7	12	[2013: 5C to 5G, 5T y 5U]
	2014	1		[2014: 37A]
	2016	4		[2016: 6]
"Purchase" or "sale" of improvements	2013	4	9	[2013: 5J and 5K]
	2014	3		[2014: 37B (2) and 37C]
	2015	2		[2015: 17]
Land use agreements	2013	2	3	[2013: 5L and 5V]
	2014	1		[2014: 37D]
Clarification of boundaries	2013	3	7	[2013: 5M a 5O]
	2014	1		[2014: 37E]
	2016	1		[2016: 36A]
	2017	2		[2017:66AyB and 68]
Difficulties due to land tenure	2013	1	3	[2013: 5P]
	2014	1		[2014: 37F]
	2017	1		[2017:65]
Occupation	2015	1	1	[2015: 1C y 1H]
Use of natural resources	2013	1	1	[2013: 5Q]
Demarcation	2014	17	17	[2014: 36A and 36B]
Recognition of landownership	2014	1	1	[2014: 37G]
Follow-up to previous years	2013	2	2	[2013: 5R and 5S]
Total cases processed			56	

2.4 Management Capacity and Best Practices

2.4.1 Required Technical Skills and Expertise (G4.2)

The active support of Fondo Acción reinforced COCOMASUR's desire for training for people from the community, by external parties with experience in project activities. This meant that COCOMASUR quickly gained skills, experience and increased their administrative and technical capacity.

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A clear example of training received is that COCOMASUR became a community facilitator and has strengthen other emerging REDD+ projects in the country. In partnership with Fondo Acción, in 2014 COCOMASUR, financed by USAID, gave advice and shared its experience with other BIOREDD+ projects [Z1: 4; 2014: 12A to 12B]. Workshops were held for 20 communities in the country and a representative from each visited the project.

Subsequently, COCOMASUR has had outstanding participation in the preparatory meeting and in the construction workshops for the National REDD+ Strategy. Furthermore, COCOMASUR has decisively contributed to the design of the Colombian policy on mitigation of climate change through the REDD+ mechanism [2016: 8A at 8C].

As a result of this the UN REDD support project was executed by the National REDD+ Strategy. This was made possible by an agreement with the Fondo Acción, whose main objective was to share the experience of successful implementation of an early REDD+ initiative. They wanted to share this with leaders and representatives of organizations from other Afro-Colombian communities from the Pacific. Four tours to the project were carried out, each of which involved the participation of 25 to 40 people. The participants come from different departments of the country, including Chocó, Cauca, Nariño and Valle del Cauca, and were accompanied by delegations from the local councils of COCOMASUR to enrich the exchange [G21; Z1: 4F; 2016: 9A to 9C].

In 2017, an agreement was signed with FAO to continue strengthening the capacities of leaders and representatives of Afro-Colombian community organizations from the Pacific. Emphasis was placed on deepening on issues of governance and community monitoring of natural resources. There were also four more tours of the project in each of which 12 to 15 participants [Z1: 3N; 2017: 38A to 38D, 39A and 39B].

In addition, it has been received visits and did additional tours with people and organizations interested learning more about COCOMASUR's experience. In 2014 there were two visits. The first was by people interested in the possibility of establishing alliances to support forest conservation. The second was by a group belonging from the Technological University of Chocó. In 2016 there was a tour given to the Corporation for the Sustainable Development of the Special Management Area of La Macarena (CORMACARENA). Then, in 2017 there were two more tours. One for representatives of community councils from the municipality of Riosucio, Chocó, and the other, for representatives of the Ministry of Environment and Sustainable Development, who are in charge of the Vision Pacific Program. The latter was interested in incorporating elements of COCOMASUR's trajectory in future projects, in terms of climate change mitigation [2014: 13 and 14, 2016: 17A to 17E; 2017: 40A, 40B and 41].

Throughout all of these visits COCOMASUR workshop participants shared issues related to the project implementation cycle. They included community consultation, participatory planning, forest measurements for carbon calculation, governance for community monitoring and case mediation. This was in line with the objectives of the visits.

2.4.2   Worker Training (G4.3)

As stated at the beginning of section 2.4.1, all activities that involve people from outside the community should also result in learning for at least one project participant from the community. Generally, however, models are made so that other participants from community can learn in larger groups. This means that

the community will have a group of people large enough to cover the necessary tasks. To do this, training happens openly and aims to train members from all local councils. The workshops developed during the current monitoring period and their respective facilitators are listed in Table 3 and Table 4.

Young people are included in the training of COCOMASUR members, in all knowledge lasts in the long term and is shared throughout the communities. This is done as it is these people and their families who implement the project activities and so they should have a control of the governance of their territories.

2.4.3   Community Employment Opportunities (G4.4)

Most of the jobs generated by the project have been for members of the community [contracts]. Administrative jobs have been aimed at people who have completed cycles of formal and professional education. Simultaneously, given the some of the technical activities, people from the community have been employed who have not necessarily completed these studies. This has been made possible by giving training to the whole community [support 2015: 20A of section 2.2.7.2 (Training): open call for training in monitoring and forest measurement methodologies].

In addition, formal education is encouraged to increase technical knowledge. Those who participate in the training and demonstrate commitment to the community through their participation in different events and community activities, are considered when teams are formed.

Given the administrative and management growth of COCOMASUR (sections 2.2.5.5 and 4.3.2), and the addition of more protected areas (DRMI and SFAPP) in the areas that surround the Project Area, it has been possible to expand the supply of jobs, This job creating can also be directed to the local councils that influence each area [2017: 51].

2.4.4   Relevant Laws and Regulations Related to Worker's Rights (G4.5)

Article 25 of the Political Constitution of Colombia states that "work is a right and a social obligation and enjoys, in all its forms, the special protection of the state, everyone has the right to work in decent and fair conditions".

The labour code (CST) is the normative text that contains the provisions by which labour relations are governed. Contracted employees are obliged to provide a personal service under continuous relegation, fulfilling orders and receiving remuneration. In Article 34 the CST recognizes the legal status of independent contractors, another form of contracting, in which people provide their services to third parties with a specific purpose, to carry out activities by their own means, with freedom and technical autonomy.

COCOMASUR acquires services, always respecting the constitutional, civil and commercial norms that regulate these legal relationships. It fully applies to the number 15 of article 8 of the Statutes. This section priorities the rights of equality, liberty, human dignity, honour, life and human rights [folder contracts and social security, 2014: 35A and 35B].

Finally, it should be noted that Law 70 from 1993 validates the right of communities and states to develop economically and socially through projects. This means that community members can also carry out voluntary activities to achieve COCOMASUR's objectives those of the project.

COCOMASUR discloses contractor's rights as part of the negotiation of the contract. During this time the contracted is written and signed and the obligations of both the parties are made known.

2.4.5 Occupational Safety Assessment (G4.6)

The contract for the provision of services is regulated by the Colombian Civil Code and the Colombian Commercial Code. The constitutional right of social security (medical care and pension benefits) is outlined in Law 100 of 1993, decree 1703 of 2002, Article 2 of Law 1562 of 2012, Decree 723 of 2013. They establish that it is the obligation of contractors to affiliate themselves and make the corresponding payments to access these services. In addition to the above, it is the obligation of the employer to verify that the people they have contracted are affiliated as independent workers and are contributing to the social security system. This is stipulated in article 26 of Law 1393 of 2010 in compliance with the law 100 of 1993. Similarly, when the contractor joins the social security system, the providers have the obligation to inform them of these duties and rights [ARL payments with social security payments; 2014: 35A and 35B].

Futhermore, in order to minimize the risks during field work, training in emergency care and handling of incidents, including snake bites or contact with poisonous animals (ophitic accident) were given [certificates in section 2.2.7.2].

2.4.6 Financial Health of Implementing Organization(s) (G4.7)

With an increased management capacity and the support of the project's base team, COCOMASUR was able to reach different organizations and execute agreements with them. These agreements allowed the Project to achieve its goals and objectives, in addition to contributing to the development of COCOMASUR's administrative capacities, which in turn resulted in a recognition of good resource management across all organizations (Table 2 and Table 3).

Given that COCOMASUR has strengthen its ability to manage resources and has a good alliance with Fondo Acción, the project has adequate financial resources to continue with its implementation. The budget for the next three years will be available in the field for the evaluation of the audit team since it corresponds to confidential information.

Additionally, CCCHD's participation in the Sustainable Colombia Fund, will allow an increase the cash flow to the project in the coming years. The fund is for the social and environmental recovery of the areas most affected by the conflict (which coincide with the richest in terms of biodiversity). It is backed with international cooperation resources from the governments of Sweden, Switzerland, Norway, Germany and the United Kingdom, and other private organizations. The Colombia in Peace Fund will finance all types of actions necessary to implement the final peace agreement and for the recovery of areas affected by the conflict. Collections made by the carbon tax will contribute to this fund. The carbon tax was created in the latest tax reform, as one of the strategies to meet the commitments made by the Colombia at the COP 21 in Paris. Companies must offset their emissions through the payment of the tax also have the

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option to buy carbon certificates. This would directly benefit the communities that have REDD+ projects who will be able to sell them certificates.

With Fondo Acción as an intermediary a joint proposal was submitted to the Sustainable Colombia Fund in order to obtain resources for the next verifications. The proposal was submitted on behalf of nine projects (with grouping 21 communities).

2.5 Legal Status and Property Rights

2.5.1 National and Local Laws (G5.1)

The changes to all the pre-existed national laws[42] are described in the *Annex 3: Laws_Updates*. There are four new relevant decree have been created during the current monitoring period:

- Decree 298, 2016: organization and operation of the National Climate Change System
- Decree 1655, 2017: organization and operation of the National Forestry Information System, the National Forest Inventory and the Forest and Carbon Monitoring System that are part of the Environmental Information System for Colombia.
- Decree 870, 2017: payment for Environmental Services and other incentives for conservation
- Decree 926, 2017. Carbon tax

The carbon tax, created in 2017 through National Decree 926 of June 1st, 2017[43], will affect the Project. The new law requires companies to pay an economic contribution for their GHG emissions generated by the use of fossil fuels. This is a great opportunity for projects like REDD+ and AR that are being implemented in the Colombia as is means they will be able to quickly sell the carbon credits generated because the purchase of these credits makes the companies exempt from the tax.

2.5.2 Free, Prior and Informed Consent (G5.3)

During the design of the project, the consultation process with each of the COCOMASUR communities was carried out autonomously. COCOMASUR, which was formalized in 2013 by the Ministry of the Interior [2013: 28A and 28B], is the Colombian entity, supported by others to ensure the fulfilment of the requirements of prior consultation with the communities.

The relationship with the indigenous communities that neighbour project has been stable throughout history. In recent years there have been meetings to deal with territorial issues, related to the extension of their reservations, the clarification of their limits and their process of restitution of territorial rights [2013:46; 2015:16A to 16C].

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[42] Laws presented in the PDD, in 2012.

[43] Decree 926 2017: http://es.presidencia.gov.co/normativa/normativa/DECRETO%20926%20DEL%2001%20DE%20JUNIO%20DE%202017.pdf

2.5.3 Property Rights Protection (G5.4)

The project was established in the collective territory of the Community Council of the Tolo River Basin and Southern Coastal Zone (COCOMASUR). COCOMASUR possesses the legal title of the land (collective title). It was delivered to them in 2005 by resolution 1502 of August 1st and registered in the Registry Office of Public Instruments under real estate registration 180-25167. The political constitution of Colombia categorises these territories as indefeasible, imprescriptible and inalienable. Therefore, property rights will always be in the hands of the project implementation community [leyLyT certificate].

When necessary, difficulties have been mediated between neighbours in the areas surrounding the Project Area, as indicated in section 2.3.4. These included issues in the clarifications for the "purchase" and "sale" of land improvements, land use agreements, clarifications of boundaries, clarifications of possession or possession, difficulties due to natural resources and demarcations.

The organizational structure is upheld by the nine local councils that are mostly located in the areas surrounding the Project Area. The teams work for the protection and restitution of collective rights as discussed in section 2.2.5.1.

2.5.4 Identification of Illegal Activity (G5.5)

A community forest monitoring team has been established to carry out the periodic routes to detect and report all types of illegal activities in the Project Area. The team, made up of members of different local councils, has been hired by the project when there have had the resources to do so. When this has not been possible, the team has carried out some voluntarily work or it has been done through the management of resources with other allies.

The work and strengthening of the forestry team has made it possible to extend community monitoring to areas near the Project Area. This has been achieved through the creation of the DRMI monitoring, forest and wetland equipment in which the methodologies used in the CCCHD are replicated. This has been further supported by the training of members of different local councils. All of this translates into an increase in installed capacity for monitoring and surveillance of the territory.

Video: COCOMASUR - A community protecting its territory, AIME Program

Selective logging and invasion are the two illegal activities that are most likely to affect the project. Some of these cases have been detected in the forest monitoring team routes as explained in section 2.2.5.3. Other cases have been reported by members of COCOMASUR or inhabitants of the territory. Once they have been informed routes are scheduled by the team, sometimes in the company of the Environmental Authority. Territory reconnaissance walks are also carried out with the objective of increasing the sense of belonging of the communities in their territory, efforts are made to exemplifying damages that are evident [supports of the walks in section 2.2.5.3].

The team has detected 14 cases of deforestation or illegal logging and 12 meetings were held to reach agreements on non-deforestation. Regarding the issue of wood exploitation, the objective has been to ensure that loggers extract wood from the agreed, established areas and only the permitted volumes (sections 2.2.5.3 and 2.2.6). One case of illegal logging was observed in 2017 in one of the permanent

plots for carbon monitoring. In response, this activity was reported to IDEAM's Forest and Carbon Monitoring System and to the Autonomous Corporation of the region, CODECHOCÓ[44].

A case of invasion by occupation [2015: 1B, 1C and 1H] and four invasions by mining [2013: 52F and 52G; 2014: 42E; 2017: 2A and 2B]. This has become a great threat to the social and environmental stability of the collective and ancestral territory of COCOMASUR in recent years. External pressures to incorporate intensive mining activity made several members of COCOMASUR want to practice it. The practice goes against the position of the general assembly, which chose to conserve the forest, the provision of food and the preservation of sources water. Five requests from individuals to carry out the intensive mining were denied [2013: 4A and 4B; 2015: 1D, 1E, 1F, 1J, 19A and 19B]. Two of which were made through the application for usufruct of the land to subsequently practice the activity, and three by requests made directly to COCOMASUR.

When it has not been possible to avoid or stop carrying out the activities not permitted through dialogue in the appropriate spaces, according to the procedures for this purpose set forth in section 2.3.4, the respective complaint has been prepared and filed and given to the relevant government authority [2015: 1G, 2016: 4, 5A and 5B].

All of the above is permanently complemented with training activities on collective rights, leadership, territorial autonomy, control and surveillance, mediation tools, among others mentioned in section 2.2.5.1. This strengthens, in the members of COCOMASUR, the appropriation of the territory for surveillance and control.

3   CLIMATE

In the Project Document Design, it was estimated that approximately 50% of the Project Area would be deforested under the without-project scenario, over the next thirty years after the project start date, which represents about 1,618 ha deforested up to the end of the current monitoring period. The GHG emission reductions associated with the estimated deforestation are presented in the sections below.

Supporting information of the Climate Section is into the Annex 4: Climate_Annexes.

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1   Data and Parameters Available at Validation

The parameters and data used, as well as the quality control measurements and the description of the accuracy of the information used in the Monitoring Plan are detailed in the Annex B_Data&ParametersAvailableAtValidation.

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[44]   Bulletin   #   11   Early   Deforestation   Warnings.   Available   at: http://documentacion.ideam.gov.co/openbiblio/bvirtual/023759/BOLETIN_11.pdf

3.1.2 Data and Parameters Monitored

All parameters monitored, as well as their measurement details and values, are found in the Annex F_Data&ParametersMonitored.

3.1.3 Monitoring Plan

The objective of the Monitoring Plan is to carry out the measurement and analysis activities throughout the entire period of Project accreditation in a homogeneous and precise manner, in order to obtain reliable and verifiable emissions reduction estimates. The Monitoring Plan includes four continuous monitoring activities (Table 7), which are described in the Annex A_MonitoringPlan, which corresponds to the plan validated in 2013 by the VCS. This describes the organizational structure of the people responsible for the implementation of said activities and includes the procedures to carry out the training and to guarantee control and quality, parameters remain the same.

Table 7. Activities of the Climate Monitoring Plan

Activity	Frequency	Method
• Patrolling the forest and monitoring the perimeters of the Project	Twice a year	The patrol team inspects the perimeter of the Project Area.
• Measurements of plots	At least evey 5 years	The sampling team visits a portion of plots in the Project, Proxy and Leakage areas.
• Identification of significant disturbances	Once every 2-3 years or after a major disturbance event	Periodic inspection of satellite images or videographs, with field inspection if necessary.
• Log of forest	When biomass harvest occurs in the Project Area	Data record and report at the time of verification.

MR.82. The documentation and training details of the field team can be found in the Annex A_MonitoringPlan.

MR.84. The documentation of the evaluation of the quality of the data is detailed in Annex A_MonitoringPlan.

MR.86. The list of GPS coordinates of the plots can be found in the Annex C_PlotList (Illustration 6).

MR.87. The description of the size of the plots and the design for each carbon pool can be found in Annex A_MonitoringPlan.

MR.89. The carbon stocks and the sample size of each stratum can be found in Annex D_Estimations.
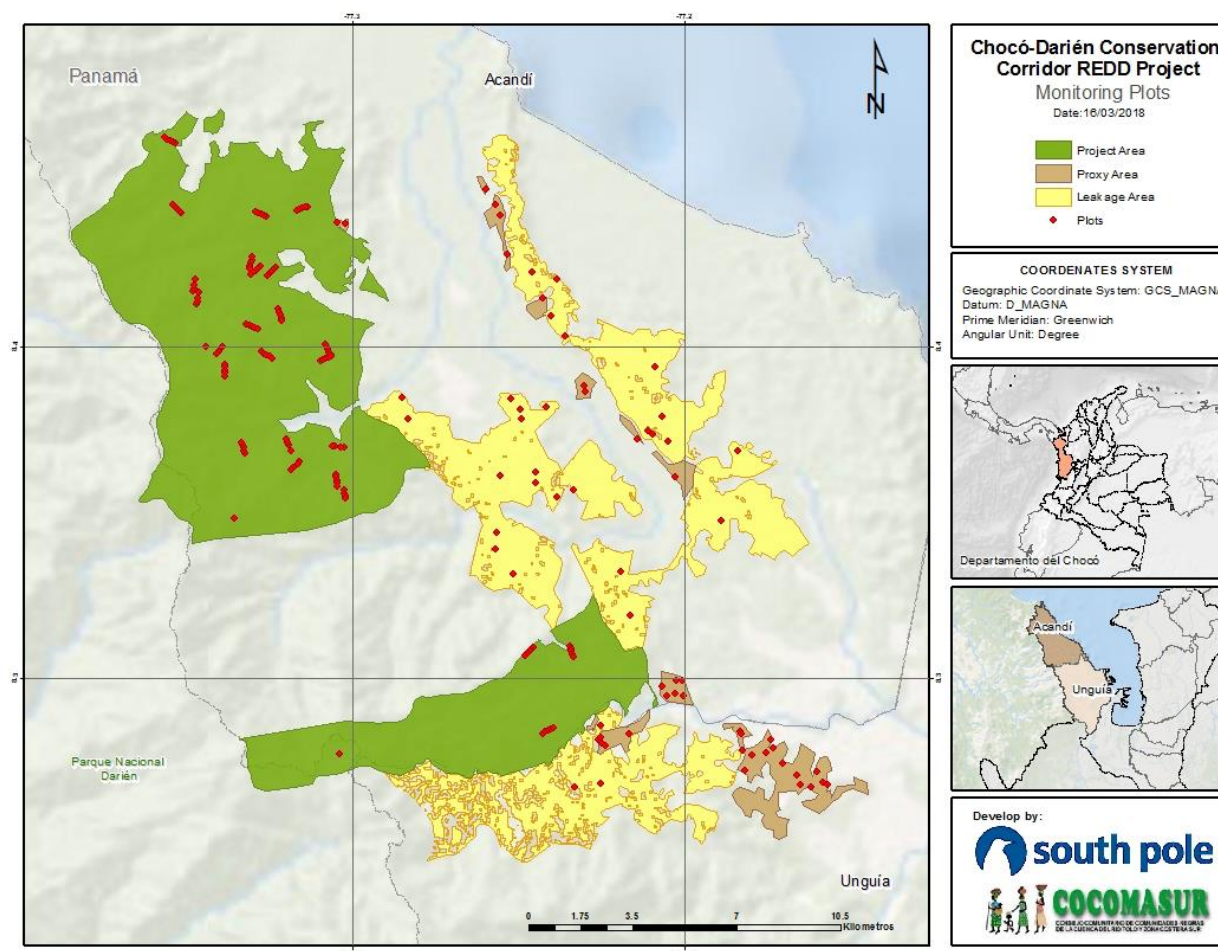
Illustration 6. Plots monitored in 2017

3.1.4   Dissemination of Monitoring Plan and Results (CL3.2)

Printed copies (one copy per local council) of the summary of the entire Monitoring Report were distributed amongst the community (section 2.3.2).

The results of this monitoring were socialised through workshops in the community councils, which were open to the public. The workshops were run by members of the technical team and the Project Coordinator. Since the majority of community members do not have access to technological equipment, and the literacy level is low, the socialisation was done through audio-visual means, which hoped to enable better understanding. The workshops were also a means through which to receive comments and suggestions about the impacts of the project and the benefits reported for the current monitoring period.

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[45]Additionally, after the execution of each project or agreement, informative meetings are held to show the results.

3.1.5 Monitoring of disturbances in Project and Leakage areas

For the determination of forest cover changes between the years 2014-2015 and 2015-2016 in the Project Area and in the Leakage Area, the information of the Map of Change of Forest Colombia - Continental Area (LANDSAT Fine Scale) was used. This information was generated by the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM). This map follows the technical guidelines defined in the Digital Image Processing Protocol for the quantification of deforestation in Colombia Version 2.0 (Galindo, Espejo, Rubiano, Vergara, & Cabrera, 2014), in which the identification of deforestation or regeneration is done by simultaneous comparison of satellite images of the two dates analyzed, and variations in the spectral response that may correspond to a loss or gain of forest cover are identified.[46]

For the evaluation of forest / non-forest coverage change between 2016-2017, two sources were used: (i) the forest / non-forest cover layer of 2016 obtained from the Forest / Non-Forest Map 2016 of the IDEAM, with a spatial resolution of 30 meters and a scale of 1: 100,000; and (ii) the forest / non-forest coverage layer of 2017 generated by RapidEye image classification of 3 m resolution and 3B processing level (orthorectified, with radiometric, sensor and geometric correction) and surface reflectance images.

The accuracy of the classification was determined from 390 validation points, from which a general precision value of 97.4% was obtained. Additionally, the generated layer was compared with plot points in the field where there was evidence of loss of forest cover, showing concordance in these areas.

With the above information, a comparison was made between the coverage of the two years. For this, the information of the year 2017 was taken at a resolution of 30 m. Subsequently, the comparison was made for the Project Area and the Leakage Area, and changes from forest to non-forest were obtained in the 2016-2017 period.

Some of these areas were found around areas with high cloudiness, which were classified as No Forest, generating that when comparing the 2017 layer with 2016 there are areas with coverage change that are not evident in the image. These areas total 268.63 ha and were eliminated as part of the post-classification process.

It is concluded that only one area that changed from forest to non-forest in the period 2016-2017 can be considered as a disturbance event, since it was greater than 20 ha (22.12 ha). This area is located at the

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[45] The Annex 11_DisseminationMonitoringResults contains a Spanish summary of the developed workshops.

[46] Institute of Hydrology, Meteorology and Environmental Studies (IDEAM). Monitoring of the change in the surface covered by natural forest. Available in: http://www.ideam.gov.co/web/ecosistemas/cambio-de-la-superficie-cubierta-por-bosque-natural

southern limit of the leakage belt, in the municipality of Unguía, where control and surveillance activities are much more complicated due to political conditions. In this way it is shown that no significant disturbances of forest cover have occurred in the 2014-2017 period, since despite deforestation in the area, only one of them corresponds to a considerable area of forest (> 20 ha). All deforested areas in the period 2014-2017 are shown in Illustration 7 and the general results of cartographic analysis are summarized in Table 8.
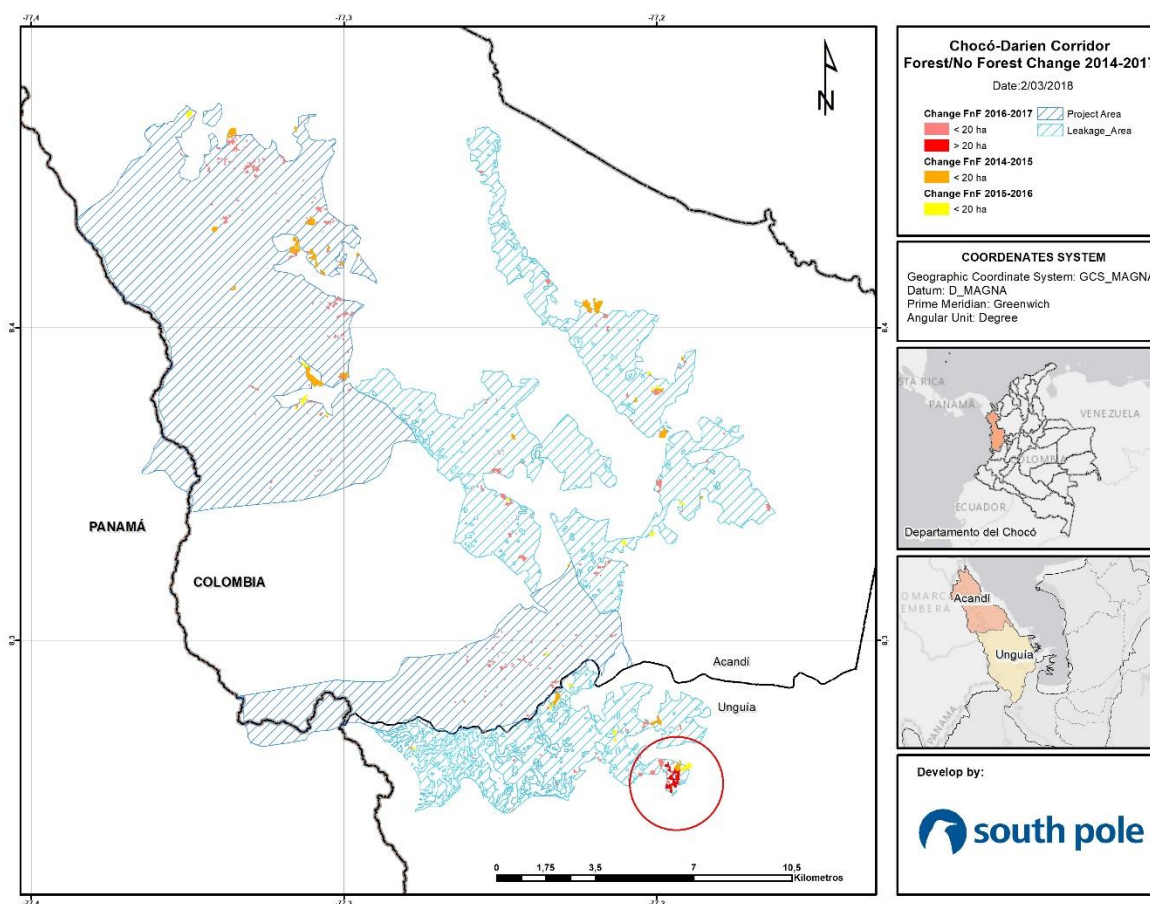
Illustration 7. Change of forest cover / No forest between 2014-2017 for identification of disturbances

Table 8. Summary table of forest / non-forest change information between 2014-2017

Period	Source	Number of areas with change Forest / Non-forest	Total area deforested (ha)	Patches of deforestation			Disturbances greater than 20 ha
				Average area (ha)	Minimum area (ha)	Maximum area (ha)	
2014-2015	IDEAM	27	117,69	4,36	0,55	16,84	0
2015-2016	IDEAM	21	37,959	1,80	0,18	6,10	0

| 2016-2017 | Supervised classification of images RapidEye | 300* | 224,22 | 0,75 | 0,10 | 22,12 | 1 |

* A number of areas were found due to the fact that the initial classification was developed with the spatial resolution image of 3 m, thus evidencing possible point changes in areas of small area.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions

The baseline emissions were determined using the coefficients derived from the cumulative logistic deforestation model developed in the first monitoring period and the variables monitored in the current period (2012 – 2017).

Baseline Emissions	
Component	Value (tCO$_2$ e)
Cumulative baseline emissions from biomass	444,264.10
Cumulative baseline emissions from Soil Organic Carbon (SOC)	48,273.53
Carbon not decayed in SOC at the end of the current monitoring period	-5,264.67
Carbon in non-decayed Below-Ground Biomass (BGB)	34,113.90
Cumulative baseline emissions	463,688.41

The biomass estimates were made based on the equations described in the Annex H – AllometriEquations, which are available in the literature and were developed for the same species present in the area or for related species. In addition, two equations developed in the previous monitoring period were used for the two most abundant palm species in the Project Area: *Wettinia quinaria* and *Socratea exorrhiza*.

Annex D_Estimations contains the details of the baseline emissions estimates, which were made using the equations F.4, F.21, F.32, F.7, F.26, y F.33 that are part of equation F.16 of the methodology VM0009, the latter is described to:

$$E_B^m = E_{B\,BM}^m + E_{B\,soc}^m - C_{B\,soc}^m - C_{B\,BGB}^m - C_{B\,DW}^m - C_{B\,WP}^m \qquad \text{F.16.}$$

Where

E_B^m = Cumulative baseline emissions

$E_{B\,BM}^m$ = Cumulative baseline emissions from biomass

$E_{B\,soc}^m$ = Cumulative baseline emissions from SOC

$C_{B\,soc}^m$ = Carbon not decayed in SOC at the end of the current monitoring period

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$C^m_{B\,BGB}$ = Carbon in non-decayed BGB

$C^m_{B\,DW}$ = Cumulative carbon not decayed in Dead Wood (DW)

$C^m_{B\,WP}$ = Carbon stored in wood products in the baseline.

The details of the estimates in the Proxy Area can be found in the Annex D_Estimations (sheets that refer to the word Proxy).

3.2.2   Project Emissions

Project emissions during the current monitoring period were calculated as the difference between the carbon content of the previous monitoring period and the current one. The emissions by burning, natural disturbances, use of fertilizers and livestock were zero. However, the felling losses in the Project Area were minimal, which is evidenced by the continuous patrolling of the area and the analysis of disturbances presented in the section 3.1.5. The emissions of the project were -61,754.92 tCO₂e.

The unfortunate event of the illegal use of transect 403 (section 2.5.4) which corresponds to 7.6 has implied the reduction of the Project Accounting Area (PAA) in that same proportion, when converting to non-forest coverage. The current PAA area is 9,902.77 ha.

3.2.3   Leakage

The emissions in the Leakage Area were determined by the first observation of degradation or deforestation in that area (first monitoring), and subsequently, determining the degree of deforestation and degradation that occurs over time. The method and associated protocols for estimating emissions in leakage zones have been established for this Project in Annex E_LeakagePlotSamplingProtocol; Randomly selected plots were measured to track deforestation and degradation.

MR.44. Description of the project activities that have been implemented since the project began and the estimation of the effects of these activities in the mitigation of the leakage.

Project activity	Start date	Status	Details
Access to health and educational resources	July 2011	Implementation. Up to 2017, 121 members of the Council have access to non-formal education programs and nine to higher formal education (technical, technological and professional) (section 2.2.7.2)	Access to education expand via curriculum development, teaching materials, and continued learning through higher education grants. Community census completed to track basic information on health and education.
Education and awareness of	October 2012	Implementation (section: 2.2.7.2.2)	Community members participate in and learn about new knowledge

Project activity	Start date	Status	Details
ecosystem service values			and experience gained through biodiversity inventory and other monitoring.
Improved agricultural and silvopastoral practices	July 2013	Implementation (section: 2.2.7.2.1)	Community members receive information and training on state of the art techniques to improve land productivity.
Sustainable timber harvesting	February 2014	Implementation (section 2.2.5.5)	Community-led forest management plan will seek to balance environmental service values with sustainable harvesting of timber and non-timber forest products. Community cooperative will be formed to leverage existing knowledge, skills and resources within *Cocomasur*. Publication of the Management Plan of the Regional District of Integrated Management (DRMI).[47]
Reforestation	January 2017	Implementation Building of a nursery with more than 500 seedlings and collecting seeds of native and threated species (Illustration 8)	Activity will employ native species at risk of extinction and species of high value to communities and wildlife. Priority areas will include areas facing high conversion threat and areas of high conservation value.
Access to agricultural and livestock credits	July 2013	Implementation (section 4.3.2.3.1)	Project funding will be leveraged to establish semi-formal community financial institutions to finance agricultural and livestock activities.

MR.45. The calculation of the cumulative emissions from the leakage areas for the current monitoring period was estimated using equations F.46 and F.48 of the VCS-VM0009 methodology. The estimation is detailed in the Annex-D-Estimations. The total emissions corresponding to leakage were estimated at -236,369.61 tCO2e, as the value is negative, these emissions are assumed as zero.

$$E_{l\ ASF}^{m} = LEM(C_p^m, C_B^m, P_{L\ DEG}^m, t^m, x^m) \quad \text{F.46}$$

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[47] Available at: http://www.cocomasur.org/libros/planDRMI.pdf.

Where:

$E_{l\,ASF}^{m}$= Cumulative emissions from activity-shifting leakage in forested areas

C_p^{m}= Project carbon stocks at the beginning of the current monitoring period

$P_{L\,DEG}^{m}$= Portion of leakage due to degradation in forest at the end of the current monitoring period

$t^{m} =$ Time from project start date to end of current monitoring period

x^{m}= Covariate value

$$LEM_F(C_P^m.C_B^m,C_{L\,DEG}^m,t,x) = P_{L\,DEG}^m\,A_{AS}(C_P-C_B) - \frac{A_{AS}(C_P-C_B)}{1+e^{\ln\left(\frac{1}{P_{L\,DEG}^{m=0}}-1\right)-\beta t-\theta(x_0-x)^T}}\qquad \text{F.48}$$

Where

$\beta =$ Effect of time on the cumulative proportion of conversion over time

$\theta =$ Effect of certain covariates on the cumulative proportion of conversion over time

$t =$ Time since project start date

$x_0 =$ Covariate values as of the project start date

$x =$ Covariate values

$C_P =$ Baseline carbon stocks at the end of the current monitoring period in the Project accounting area

$C_B =$ Baseline carbon stocks at the end of the current monitoring period in the Proxy area

$P_{L\,DEG}^{m} =$ Portion of leakage due to degradation in forest at the end of the current monitoring period

$P_{L\,DEG}^{m=0} =$ Portion of leakage due to degradation prior to first verification event

The calculation of the leakage factor due to the degradation in the current monitoring period $P_{L\,DEG}^{m}$ is detailed in the Annex D_Estimations, sheet LeakageResults. This factor was estimated at 0.09.

3.2.4 Net GHG Emission Reductions and Removals

Net GHG emission deductions are detailed in the Annex D_Estimations.

Annex I_NonPermanenceRiskReport justifies the use of a 16% discount for Project risks [NPR_SupportingInformation].

Table 9 shows the NERs estimated for the current monitoring period.

Table 9. Net GHG Emission Reductions during the monitoring period 2012-2017

Net Emission Reductions	
Component	Value (tCO$_2$ e)
Baseline emissions	331,948.12
Uncertainty Deduction	-
Project Emissions	-61,754.92
Leakage Emissions	-
Gross Emission Reductions (GERs)	393,703.04
Net Emission Reductions (NERs) to VCS Buffer Pool (16%)	62,992.49
NERs	330,710.55

3.3 Optional Criterion: Climate Change Adaptation Benefits

Not applicable.

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CM1.1)

From the beginning of the project to the end of this monitoring period there have been changes based on experience and lessons learnt. It is common for a project of this magnitude to have this effect on community organizations. Project activities allowed for the strengthening of all levels and parts of COCOMASUR's structure. This was key to encouraging positive interventions and mitigating negative responses from people and communities in the territory. Without the project and its interventions in various areas, no actions would have been taken to stop negative activities such as deforestation and illegal mining. These activities could have threatened the organizational structure, the mandates of the General Assembly, territorial rights and natural resources. In fact, there was a temporary negative impact due to the occurrence of illegal mining as described in section 2.5.4.

The teams working on the project and the increase in COCOMASUR's management capacity, many of the other activities and projects that were carried out during this period would not have been possible. Or, they would have proceeded in a disorderly manner, without following the consultation procedures with the communities established by Colombian law and COCOMASUR. As a consequence, management is evidenced as one of the central strategies to achieve the project's objectives during the current monitoring period (Illustration 2).

Although the implementation of best and financial management practices was contemplated from the design of the project as activities to increase the COCOMASUR's governance capacity (section G.3.2 of the CCB PD), the limited economic resources led to an advance in the generation of management capabilities faster than expected. In other words, the Project has provided a platform for the increase in the management capacity of COCOMASUR even in the absence of the resources initially expected (see sections 2.2.5.2, 2.2.5.5 and 2.4.1, Illustration 2). Given the capacities formation of work teams, training and experience acquired, it has been possible to control and monitor interventions, as well as the execution of agreements and projects. The establishment of alliances with public and private organizations has been crucial in this regard.

For the analysis of the direct and indirect impacts of the project on communities, theory of the Social and Environmental Impact Assessment Methodology (IESB) was used. Its construction of the change matrix links results with activities through a causal relationship.

Table 10 provides an overview of the impacts generated for community groups (local COCOMASUR councils and the Chidima and Pescadito indigenous reservations), the activities and management of said activities throughout the project and their work teams during the monitoring period. (More information on the impacts of the project is presented in section 4.3.2).

<div align="center">Table 10. Community impacts</div>

Project actions	Impacts	Community group impacted	Planned / Not planned	Effect
The different parts of COCOMASUR have conducted follow ups and made decisions regarding the execution of the Project. The board of directors has been especially active in this regard (section 2.2.5.5). This indicates that the project implementation has increased COCOMASUR's capacity.	Strengthening territorial governance structures	COCOMASUR	Planned	Positive
Through the implementation of the project, COCOMASUR has strengthened its management of the territory. This is reflected in participation, decision making and in the administration of the protected areas within the Project Area (section 2.2.5.5). The monitoring and community management of the forest and the	Improved capacity for collective land administration	COCOMASUR, Chidima and Pescadito	Planned	Positive

Project actions	Impacts	Community group impacted	Planned / Not planned	Effect
reconnaissance walks of territory (section 2.2.6) have also strengthened the collective administration. They also benefit neighbouring indigenous communities by identifying threats that may affect their territories.				
Efforts to achieve agreements for good management of natural resources (and territory), as well as mediation to resolve over land use (section 2.3.4). The processes with the INCODER, URT and the Ministry of the Interior (2.2.5.1), will help to clarify existing disputes over land use and ownership in the areas surrounding the Project Area.	Resolution and prevention of land conflicts	COCOMASUR	Planned	Positive
The members of COCOMASUR have access to short courses, technical and professional degrees. Participation is encouraged, and registration procedures are carried out by COCOMASUR (section 2.2.7.2). In addition, spaces have been created to put the knowledge acquired into practice. This is manifested in cooking and lodging groups, support for home gardens and the internships for technicians in environmental management.	Access to benefits of educational established by Colombian law	COCOMASUR	Planned	Positive
COCOMASUR took the necessary steps implement state programs, promoting compliance with internal requirements, adequate delivery of information and consultation with	Increased internet access	COCOMASUR	Planned	Positive

Project actions	Impacts	Community group impacted	Planned / Not planned	Effect
communities. It also acquired and installed equipment to improve the internet signal in Peñaloza Local Council. See section 2.2.7.1				
COCOMASUR arranged with SENA courses with specific themes of agricultural production and the implementation of some productive projects (described in the section 4.3.2).	Better agricultural performance and food safety	COCOMASUR	Planned	Positive
Collective rights, identity and territorial appropriation have been strengthened through cultural encounters, walks of recognition of territory, workshops, music and dance.	Strengthening dignity, territorial autonomy and traditional ways of life	COCOMASUR	Planned	Positive
Conservation of the forest to improve water quality as an ecosystem service (5.3.2.3).	Provision of water	COCOMASUR, Chidima and Pescadito	Not planned	Positive

4.1.2 Net Positive Community Well-Being Impacts (CM1.1)

Without the Project's human teams and its management capacity obtained, many of the interventions that have resulted in improvements for members of COCOMASUR and neighbouring indigenous communities would not have been possible. It can be said that the impacts obtained so far, as indicated in the previous section, are net positive. COCOMASUR has been able to manage, supervise and order interventions as well as execute agreements and projects. This has been possible because of the CCCHD teams and the capacities and experience acquired through its implementation. As such, the impacts obtained are net positive.

In the absence of the project, rights, dignity and territorial identity would have been degraded. This would have happened as a consequence of weak governance and inefficient mechanisms for land tenure conflict resolution. Additionally, it would not have been possible for the communities to receive the benefits of access to telecommunications, equality in access to territorial resources and community participation for decision making (section G2 of PDB CCB).

4.1.3 Protection of High Conservation Values (CM1.2)

No negative effects have been evidenced as a result of project activities in any of the high conservation values, on the contrary, the activities have had a positive impact (see section 2.2.6).

The routes by the forestry team and the reconnaissance walks have made it possible to opportunely identify threats (such as deforestation, mining, and occupation) in the forest (section 2.5.4). They have added to the mediation process in cases of land tenure or of natural resources (sections 2.5.3 and 2.5.4). They have also halted the advance of the agricultural and livestock border, reducing the loss of vegetation cover and the fragmentation of the forest (5.3.2.4, 3.1.5). Furthermore, they have protected the water sources (5.3.2.3). During territory reconnaissance walks a sense of belonging to the forest is strengthened, which fosters its care and defence by the community.

Complaints were filed in 2015 and 2016 with the environmental authorities for three cases have been decisive. They were as follows: the improper handling of natural resources, the passage of heavy machinery for the extraction of metals in the municipality and mining activities that were not permitted in the areas surrounding the Project Area. Through these complaints, measures such as the one stipulated in resolution 0660 of 2016, which ordered the immediate suspension of indiscriminate burning and illegal logging (sections 2.5.3 and 2.5.4) have been obtained.

Ongoing processes with the URT and the Ministry of the Interior, which contribute to the clarity of land ownership and boundaries, have already yielded important results. Procedures for the characterization of the territory are being carried out. They give continuity to the processes of restitution of territorial rights and will allow permit the extension of the orderly management of the territory. In addition, instructions were issued to various national, departmental and municipal institutions, to protect all community members and the monitoring of unpermitted actions on natural resources and territory (section 2.2.5.1).

The process with the National Mining Agency for the formalization of the traditional mining methods in the Tibirre and Titiza local councils (section 2.2.5.1), permits mining in a specific area. This will make it possible to expand control and regulation over those who practice mining.

On the other hand, COCOMASUR has also partaken in projects that may negatively affect the forest and the HCV. Negative effects depend on the nature and the willingness of project partners to complying the communities. Example of this was the electric interconnection projects and road infrastructure. Furthermore, other interventions have been monitored, restrained or rejected, for not following the established procedures of consultation with the ethnic authorities, as a result they could have negative effects on the territory, resources and autonomy of the communities. This could occur on the grounds that they would not contribute effectivel.to the strengthening of governance (more information in section 4.3.2, indicator: Detention or reformulation of interventions).

In conclusion, all activities that reinforce cultural identity and the importance of natural resources have led to the generation of positive impacts as a result of the implementation of the project.

4.2 Offsite Stakeholder Impacts

4.2.1   Mitigation of Negative Impacts on Other Stakeholders (CM2.2)

During this monitoring period, no negative impacts were anticipated or identified on the communities neighbouring the project. COCOMASUR has had meetings with the Ministry of the Interior with the purpose of clarifying situations related to territorial delimitation (section 2.5.2). This was because COCOMASUR faced the possibility of invasion by people outside the collective territory and so required

effective demarcation of project boundaries (section CM2.1 of the PDD CCB). It also served to maintain communication with the people in other reserves.

4.2.2 Net Impacts on Other Stakeholders (CM2.3)

Negative impacts on the neighbours of the project were not foreseen or identified during this period. On the contrary, they benefited from the conservation of water sources (5.3.2.3).

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan Development (CM3.3)

Annex 5_CCBMonitoringPlans_2013

Annex 1_CommunityIndicators (section 2.2.3).

4.3.2 Community Monitoring Plan Results (CM3.1, CM3.2, GL2.5)

The project identified four focus themes for its success and the well-being of local communities:

1. Improved and strengthened territorial governance
2. Strengthening of cultural identity
3. Food security and alternative livelihoods
4. Increased well-being

The monitoring of these focus themes seeks to measure direct impacts on the communities through indicators based on products, results or impacts established in the project's theory of change.

Community monitoring was carried out during the whole period in accordance with the plan, but also including modifications (2.2.3). These modifications were made based on the experiences and learning of the community as a result of the implementation of project activities. The availability of physical, technical and economic resources was also taken into account.

Sections 4.3.2.1, 4.3.2.2, 4.3.2.3, and 4.3.2.4 give the results of each of the above mentioned scopes. Annex 6_CommunityReport_Indicators contains all the support information.

4.3.2.1 Improved and strengthened territorial governance

4.3.2.1.1 Strategy 1: Strengthening of administrative capacity

Between 2012 and 2017 the administrative capacity of COCOMASUR was strengthened. Evidence of this is the creation of two bank accounts and the acquisition of accounting software. The accounting software has improved the administration and management of the financial resources received through agreements and donations. These resources have been managed by the Community Council.

Furthermore, there is now an administrative centre and a training centre in the municipality of Acandí, a web page for sharing information about events and activities related to the project and COCOMASUR. COCOMASUR now has cell phones with Internet plans[48] to communicate with local councils and the work teams. Anthrotect made 13 disbursements to COCOMASUR and 19 agreements. Contracts and agreements (section 2.2.5.5) were developed in the search for additional financial resources to support the functioning of the community council project activities.

In addition, members of COCOMASUR's administrative and technical teams have participated in seven workshops on governance, administration and REDD+. The community council met 39 times to plan and implement follow up on project activities. The general assembly met five times to present reports on activity and generate guidelines for the next period. In 2013, 2014 and 2015[49], the execution of agreements and projects were reported to the General Assembly. Finally, three meetings were held and a performance review of the work team.

All of the above has allowed COCOMASUR organize their structure and increase their administrative capacity. COCOMASUR surpassed the expectations set forth in the design document, which planned for a gradual transfer of the administration of the project to COCOMASUR from the sixth year (section G.3.4 of the PDD CCB).

4.3.2.1.2   Strategy 2: Promotion of inclusive governance

In the search for the promotion of inclusive governance a population consensus of COCOMASUR members was conducted online in August 2012. In addition, in 2013, a mechanism for the collection and processing of various matters was introduced. These include requests, complaints, claims and suggestions related to situations that arise in the territory due to natural resources or internal COCOMASUR matters. Additionally, 28 communicative texts with information about the project were produced and disseminated in the communities (Annex 7_Videos&News).

Throughout the monitoring period, the community councils participated in 102 meetings with approximately 28 attendees per meeting. They were organized to share information about the project execution and implementation of policies that involved them directly or indirectly. In all instances COCOMASUR were present to represent local councils. In addition, 22 open workshops for board members have increased their capacity to administer the territory and resolve different situations that arise (see section 2.2.7.2).

4.3.2.1.3   Strategy 3: Increase awareness of cultural identity and territorial rights

One of the core threads to strengthen cultural identity awareness and territorial protection is the right of the population to make use of and enjoy the benefits of the land they inhabit. Therefore, during the period from 2012 to 2017, 230 landownerships were formalized through usufruct documents delivered by COCOMASUR. To disseminate and clarify membership criteria to COCOMASUR, nine meetings were

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[48] http://cocomasur.org/

[49] Accountability COCOMASUR: https://www.youtube.com/watch?v=R3r0NPo8S6A&t=202s

held in 2013 with local councils or their boards of directors. Additionally, COCOMASUR has advanced three processes and five complaints with the state for the protection of territorial rights (see sections 2.2.5.1 and 4.1.3) and it has dealt with 49 internal cases of conflict over boundaries and land use, amongst others (see section 2.3.4).

As a result of their work and by way of recognition of COCOMASUR, 30 requests have been received to join the organization during the monitoring period. This represents an increase in the number of people that are available to support the projects led by the organization such as the care of the territory. 26 community events took place to increase awareness of collective rights and, through consultation processes with the communities, two protected areas were declared within the collective and ancestral territory. These areas are Acandí Playón and Playona Wildlife Sanctuary, and La Rioja Regional Integrated Management District Playona Loma La Caleta. On the other hand, given threats of illegal mining in the territory (section 2.2.6), the general assembly ratified its conservation decisions on May 12th, 2015.

Finally, to supervise and coordinate activities carried out in the territory different types of meetings have been attended by local, regional and national institutions. These meetings also include those held with local councils or their representatives, to inform, discuss and consult on projects and initiatives that directly or indirectly involve them.

4.3.2.2 Strengthening cultural identity

4.3.2.2.1   Strategy 1: Promotion of community participation

There have been 26 cultural and intergenerational events organized or supported by COCOMASUR or local councils. In these events, the youngest attendants have been made aware of the history of settlement in the territory, forms of production, organizational forms, land tenure and their own artistic expressions. This was done to transmit and strengthen the history and traditions of the communities and reflect on the changes over time. In the regional tours of the project nine cultural meetings have been held in which traditional music and dance are shown and knowledge is exchanged with the visiting communities. COCOMASUR acts as a community facilitator for these tours sharing their experience in governance and community monitoring. Tambores del Tolo, a musical group, was created in 2015 within the project Rescue of Sociocultural Practices and Traditional Production. They are financed by the Colombian Family Welfare Institute.

COCOMASUR has participated in 12 regional, national and international events for the administration of natural resources. The general coordinator participated in the following events:

- The international conference Lands and the Peace Agenda for Colombia in Washington in 2013
- The International Workshop of Surveillance and Control of the Territory in Guatemala in 2015
- Second Mesoamerican Experience Sharing Workshop on Community Based Monitoring Approaches in 2016 in Panama
- Exchange of Experiences of Community Monitoring and Identification of Opportunities for Articulation with the Forest and Carbon Monitoring System (SMByC) in 2017
- International Congress of Conservation Biology,

- The III Regional Forum on Climate Change
- Cauca Alliance for Climate, Biodiversity and Development in the Post-Conflict
- Annual Forest Monitoring Seminar that addressed issues related to monitoring of forests, community participation and other land uses.

In addition, the technical coordinator and people from the forestry team participated in several workshops, including the Monitoring, Reporting and Verification Workshop organized by Fondo Acción as part of the Connected Landscapes Program.

4.3.2.2.2 Strategy 2: Conservation of High Conservation Values

Territory reconnaissance walks promote and reinforce a sense of belonging and cultural identity, while simultaneously facilitating its surveillance. There have been 21 specific walks identify activities that not permitted. Others have been scheduled to share the experience and knowledge on the establishment of plots, methodology of carbon inventory measurement and community monitoring and mediation mechanisms. See section 2.2.6.

4.3.2.3 Food security and alternative livelihoods

4.3.2.3.1 Strategies 1 and 2: Nutrition education and Agricultural improvement and diversification of livelihoods

During the current monitoring period, five food safety courses were completed (see section 2.2.7.2) as was a meeting for the recovery of traditional culinary practices and preparations.

99 COCOMASUR members have been trained in agricultural techniques in 13 courses and a workshop (see section 2.2.7.2). 70 families benefited from the implementation of the following agricultural projects: livestock reconversion (section 2.2.5.1), establishment of 10 home gardens, plantain production, cattle and pig breeding and rubber sowing.

In addition to the diversification of agricultural practices, 47 direct jobs were created in the project for administration and monitoring forest activities (including contracts for four people who were previously loggers). In addition, for the execution of the agreements with the SFAPP and the DRMI Management Plan, COCOMASUR has generated a further 58 jobs. 52 of which were for members of the organization and 12 of which were women (sections 2.4.3, 2.4.4 and 2.4.5). 158 people have felt economic benefits from participating in sporadic and indirect project activities such as the providing lodging, food and transportation services.

Finally, COCOMASUR influenced the Agrarian Bank's decision to recognize the usufruct land document as a valid for the allocation of agricultural credits. Previously land titles were required, which were not in line with collective forms of land tenure used by the Afro-Colombian communities. This is how 125 members have been benefited with loans from financial institutions.

4.3.2.4 Increase in well-being

4.3.2.4.1   Strategies 1 and 2: Health and Education

Two workshops and three courses on health promotion, and food handling have been carried out (section 2.2.7.2).

Six meetings have been held to address the synergy between teachers, Afro-Colombian communities and ethno-education. Educational benefits for ethnic groups has also been discussed. Although the educational infrastructure the responsibility of state, COCOMASUR makes efforts and investments to complement it. They do this by promoting the integration of educational activities with community activities. For example, between 2015 and 2017, a school and community restaurant were constructed in Peñaloza Local Council with the support of the Municipal Mayor's Office[50]. In addition, contributions were paid for support fees from the Furutungo Local Council, which were invested in repairs to their school.

Up until 2017, 121 members of the council have accessed non-formal education[51] programs and nine people have partaken in formal higher education (technical, technological and professional) (section 2.2.7.2).

4.3.2.4.2   Strategy 3: Access to information

Currently, 78% of the communities (nine schools) belonging to COCOMASUR have Internet access. This is a result organization's work alongside the state to speed up the implementation of the programs in this area (section 2.2.7.1). Additionally, two requests for improvement in the quality of service have been presented to the lender.

4.3.2.4.3   Strategy 4: Management for the improvement of infrastructure

The general coordination and the project teams have followed up on investments made by state entities in infrastructure. In order that they respect the internal regulations, are in accordance with the objectives of COCOMASUR and to increase its effectiveness. To follow-up the implementation and fulfilment of requirements for electricity supply projects for the community partook in the Implementation of Individual Photovoltaic Systems for the Electricity Generation of the Areas of High, Medium and Low Bajo Tibirre. This benefited 136 families. He community also participated in the project for the Improvement of Electrical Infrastructure in the rural communities of Capurganá, Sapzurro, San Miguel, Peñaloza and the Municipal Headquarters of Acandí, in the department of Chocó. In addition, documentation was compiled,

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[50] The support quotas are established by the statutes of COCOMASUR in article 62: This quota, apart from reaffirming an individual commitment in a symbolic way, is very important for the material support of the organization.
[51] Technical programs offered by non-formal education institutions: https://www.mineducacion.gov.co/1621/article-87076.html

and the application process was carried out for members of different local councils for a new energy project with solar panels with IPSE and GENSA.[52]

The civil works carried out in the school canteens of the local councils of San Miguel and Peñaloza were also supervised so they could be improved. This included the collection of documents for family applications from several local councils in order to access subsidies for housing of rural social interest. 27 families have benefited from this subsidy.

Through agreements for the extraction of construction material, COCOMASUR enables the maintenance of the road that connects with seven of the nine local councils.

Finally, COCOMASUR delivered community usufructs for the lots for the Lights for Learning project [53], Implementation of Individual Photovoltaic Systems, Implementation of Hybrid Solar Diesel Systems, construction of a health centre and a citizen integration centre.

4.3.3 Dissemination of Monitoring Plan and Results (CM3.3)

Printed copies (one copy per local council) of the summary of the entire Monitoring Report were distributed among the community (section 2.3.2).

As described in the section 3.1.4, the results of this monitoring were socialised through workshops in the local councils.

Additionally, after the execution of each project or agreement, informative meetings are always held to share the results.

4.4 Optional Criterion: Exceptional Community Benefits

Not applicable.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (B1.1)

The current Project produces positive impacts for the biodiversity of the region by maintaining two local conditions: (1) the natural forest cover and (2) the integrity of the ecosystems specific to the forests (categorized as very humid premontane forest, tropical humid forest and rainforest, Illustration 18). By

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[52] Project executed by the Institute of Planning and Promotion of Energy Solutions for Non-Interconnected Areas – IPSE: http://www.ipse.gov.co/. Energy Generation and Marketing Company in Colombia - GENSA: http://www.gensa.com.co/

[53] http://lucesparaaprender.org/web/

maintaining these conditions, it allows for connectivity between areas under protection and ecosystem conservation schemes.

With regards to the first condition, the forest cover in the Project Area has been maintained even though in the whole of the Choco Darién, there has been a notable reduction over the last thirty years (between 2012 and 2017 there have been no disturbances to the forest cover, section 3.1.5). During this period, over the past 30 years, deforestation on a regional scale has been associated mainly with two processes: first, new human settlements that encroach the foothills of the highland of Darién and second, the formation of livestock estates in the hills and the alluvial plain of the Tolo River. Both of these processes are interrelated, since the initial clearing by the settlers usually serves for the later extension of cattle farms. The transformation of forest soils to agricultural areas and especially pastures has been continuous and can be understood in several stages, marked to a large extent, by the dynamics of the internal armed conflict in Colombia. Between 1985 and 1994, the overall rural area in Acandí covered by pastures increased from 17.4% to 45%. This adaptation of soils towards pastures for extensive cattle ranching is, at times, associated with drug trafficking incentives (González, 2011). Later on, during the period during which the rural populations of Acandí were violently threatened and displaced by illegal armed groups (between 1994 and 2006), the concentration of land in medium and large farms was strengthened. In 2006, 51.3% of the rural area of the municipality of Acandí was suitable for pasture, that is, more than 44,000 hectares. During this stage, 5,600 hectares were established as paddocks (MAVDT, 2006) and, by 2010, cattle herds completely dominated the valley of the Tolo River. In view of this situation, forest conservation is a key challenge because it positively impacts biological diversity, which decreases significantly with the implementation of pastoral systems and the resulting reduction of tree cover. Biodiversity and its relation to cultural diversity also have a positive impact on the region, inasmuch as forests provide ecosystem services to ethnically and culturally differentiated population groups. For example, forests provide plants for medicinal and ritual use, as well as game for hunting and wood species for the construction of traditional dwellings, all of which can be obtained in preserved forests.

Regarding the second condition, avoiding the removal of native habitat and maintaining the vegetation structure in the Project Area contributes to the maintenance of the physical and ecological processes that sustain the populations associated with the forests. Preventing fragmentation, by maintaining the integrity of ecosystems, has led to its composition and structure to reach beyond the boundaries of the area covered by the Project hence reducing the edge effect. In this sense, the Project has favored the connectivity of habitats and ecosystems (section 5.3.2.4). For example, by decreasing the intervention of riparian vegetation (Illustration 18), the Project has contributed to the permanence of protective strips of river beds and streams, which constitute its main ecological structure, and thus maintaining the conditions for the interaction between bodies of water, flooding and terrestrial ecosystems. Within a broader framework, the Project Area serves as a conservation corridor between areas with different conservation and environmental protection schemes, including natural protected areas of a public nature, such as the Darién National Park in Panama, the Darién Protective Forest Reserve and the Regional District of Integrated Management (DRMI) Playona-Loma La Caleta (both in Colombia). Privately owned natural reserves, are also included in this network.

5.1.2   High Conservation Value Protection (B1.2)

The protection of High Conservation Values (HCV) has been positively impacted during the monitoring period.

As stated in section 2.2.6, HCV 6 received special treatment during the monitoring period as it is derived from the livelihood of the communities themselves, a factor that, in turn, conforms the local culture that guarantees the care of the other HCVs. With regards to HCVs 1 through 5, the surveillance and monitoring carried out by the Project's forestry team has allowed for the protection of forest cover, which has contributed to the maintenance and improvement of these HCVs. Through the implementation and use of land and activity surveying "walks", many positive outcomes have been achieved: mining initiatives and illegal logging have been halted (sections 2.2.5.3 and 2.5.4), hunting has been regulated and livestock expansion has been controlled, among others (2.2.6). In addition, it has resorted to the legal tools offered by the Colombian state for the protection and surveillance of illegal actions on natural resources and territory. As part of the overall initiative, reforestation and repopulation actions were started in 2017 with the adaptation of two native tree nurseries (Illustration 8).

Illustration 8. Nursery for reforestation with native trees, Peñaloza

Section 5.3.2.5 (Table 25) outlines the most important findings of the period 2012-2017 and demonstrates the maintenance and / or positive impact of the project on the six HCVs.

5.1.3   Invasive Species (B1.3)

Based on findings from the monitoring of biodiversity, the presence of invasive species in the Project Area was not evident. However, within the scope of local commercial initiatives, the community has reported the introduction of exotic species by southern communities into the study area. For example: the species *Cocus nucifera* was introduced in 1983 by the DIAR as part of such a project, led by the Ministry of Agriculture; *Gmelina arborea* was introduced in 1999 as part of a project with CODECHOCÓ; in 2000, a banana seed was introduced as part of a project carried out by the Diocese of Apartadó; *Teobroma Cacao* and *Tecnona grandis* were introduced in 2006 in the *Guarda Bosques* project; *Eugenia stipitata*

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(Arazá) and *Diosperis discolour* (Seven flavors) were incorporated by the Darién Foundation in 2007; and *Acacia mangium* was introduced in 2007 by local farmers.

Starting in 2010 with the beginning of the Project, COCOMASUR has focused its efforts on the strengthening of governance and community monitoring exercises (2.2.5), an initiative which has managed to stop some interventions in the study area and, as a result, a decrease of the introduction of non-native species.

Note that *Hevea brasiliencis* (Rubber) was introduced into the Project Area during the current monitoring period to promote alternative activities in the communities (5.1.4), however, this species is not considered invasive.

5.1.4   Impacts of Non-native Species (B1.4)

Species	*Hevea brasiliensis* (Willd. ex A. Juss.) Müll. Arg.
Justification of Use	The implementation of the project "Reforestation by Rubber Farming" under Agroforestry Systems Associated with *Musaceas* and *Gramineas* as a Food Security Component Chocó Occidente, with the Environmental Technical Corporation - Green CAT; started in 2016 with the establishment of 70 hectares that would benefit the local townships of Furutungo and Peñaloza (4.3.2.3.1). In addition, this project was successful at recovering some of the bordering land in the CCCHD area that was being invaded by third parties.
Adverse Effects	No adverse effects have been made evident with respect to the environment or other associated organisms, nor has it been reported on the list of invasive species in Colombia.[54]

5.1.5   Genetic Modified Organisms (GMO) Exclusion (B1.5)

The project has not used GMOs to generate GHG emission reductions.

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[54] Official list of invasive species for Colombia: http://www.parquesnacionales.gov.co/portal/es/especies-exoticas-con-potencial-invasor/listado-oficial-de-especies-invasoras-para-colombia/

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impact Mitigation (B2.2)

No negative impacts on the biodiversity of surrounding areas have been evidenced by the implementation of Project activities, though there is a potential risk that the conservation of the forest would lower the local supply for wood and that the local demand for wood could be transferred to the forest resources of neighboring territories, thus transferring the pressure of demand to areas with weaker conservation and management schemes. Despite this risk, actions have been implemented to prevent it from occurring: one of these initiatives is the monitoring of deforestation due to leakage and the design of mitigation strategies to face any eventual negative actions. In fact, over the entire monitoring period, only one single event of disturbance due to deforestation was identified on the southern edge of the leakage belt of the Project Area, in the municipality of Unguía, where control, due to political and social conditions, is much more complicated (see section 3.1.5).

Another potential threat to the preservations of biodiversity is the implantation of coca leaf crops in the Project Area that could increase the pressure to transform forest areas, this fact was not evidenced in the current monitoring period. However, since 1980, the cocaine economy has caused the establishment of coca farms that encroach on natural forests in the Colombian Darién region. More recently, coca leaf farming areas have continued to increase since 2009, following the restructuring of armed paramilitared groups after the demobilization of the Elmer Cárdenas Bloc of the United Self-Defense Groups of Colombia (Defensoría del Pueblo, 2011). By then, the FARC managed to recover the territory bordering the areas with coca leaf crops in Unguía and Acandí (Defensoría del Pueblo, 2011). The dynamics of permanence of coca crops (UNODC, 2017) shows that the Caribbean side of the *Serrania del Darién* has in fact been affected by illicit crops on occasion between 2007 and 2016 and some important areas have even been affected for the first time in the last three years. Considering that the national Peace Agreement to end the armed conflict between the FARC-EP and the Colombian Government has been finalized, the on-going scenario of illicit crops in the Darién is likely due to the dynamics of the market and the local control exercised by organized armed groups.

Finally, the management carried out to prevent and control the illegal mining of alluvial gold in funds associated with rivers and streams in the Project Area could transfer these pressures to other bodies of water. Nonetheless, this potential effect is contingent on external factors that are outside of the reach of local conservation initiatives. The problem is more complex than the extraction of minerals without a permit: criminal structures take advantage of high profit activities to generate income to finance the structures of armed paramilitared groups. Furthermore, the presence of illegal mining for gold is also influenced by macro-dynamics, such as fluctuations in global demand for gold, which, should be noted, registered an increase of 42% between 2007 and 2012 (Uribe, 2014). As a result, the increase in the international price of gold has created an important incentive for criminal structures to continue to pursue illegal gold mining ventures. Due to these factors, in the past decade, the conditions have been ideal for these structures to increase their income from the mining while minimizing the risks and costs associated with drug trafficking (Massé & Munevar, 2016). Precisely, since 2013 SIMCI has been generated warnings about the expansion of alluvial gold exploitation in territories affected by coca leaf crops (UNODC, 2016, 2017). The mitigation of impacts in surrounding areas of the Project has been made by

the control and monitoring of illegal mining activities has, thus far, focused mainly on the public denunciation of illegal gold mining to the competent entities.

In conclusion, the Project's activities have had no measured negative effects on the biodiversity of the areas surrounding the Project and actions have been implemented to mitigate the potential negative impacts outlined above.

5.2.2   Net Offsite Biodiversity Benefits (B2.3)

By analyzing the information collected over the monitoring period, it was possible to demonstrate how COCOMASUR through the implementation of Project activities, has generated positive net impacts in the entire Project Zone by improving connectivity between areas under protection and conservation schemes of ecosystems. (see section 5.1.1).

In addition, COCOMASUR is responsible for monitoring the hawksbill (*Eretmochelys imbricata*) and caná (*Dermochelys coriácea*) turtles in the Acandí Playón and Playona Fauna Sanctuary[55]. This action was reinforced by the declaration of the Regional District of Integrated Management La Playona - Loma La Caleta in the year 2013. Between 2014 and 2017, an average arrival of 320 sea turtles and 19 Carey sea turtles were reported to National Natural Parks of Colombia[56]. Illustration 9 shows the nesting records of the turtles in Chilangos and Playona.

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[55] Wildlife Sanctuary Acandí: http://cocomasur.org/sf.html.

[56] Wildlife Sanctuary Acandí, Playón and Playona: http://www.parquesnacionales.gov.co/portal/es/parques-nacionales/santuario-de-fauna-acandi-playon-y-playona/
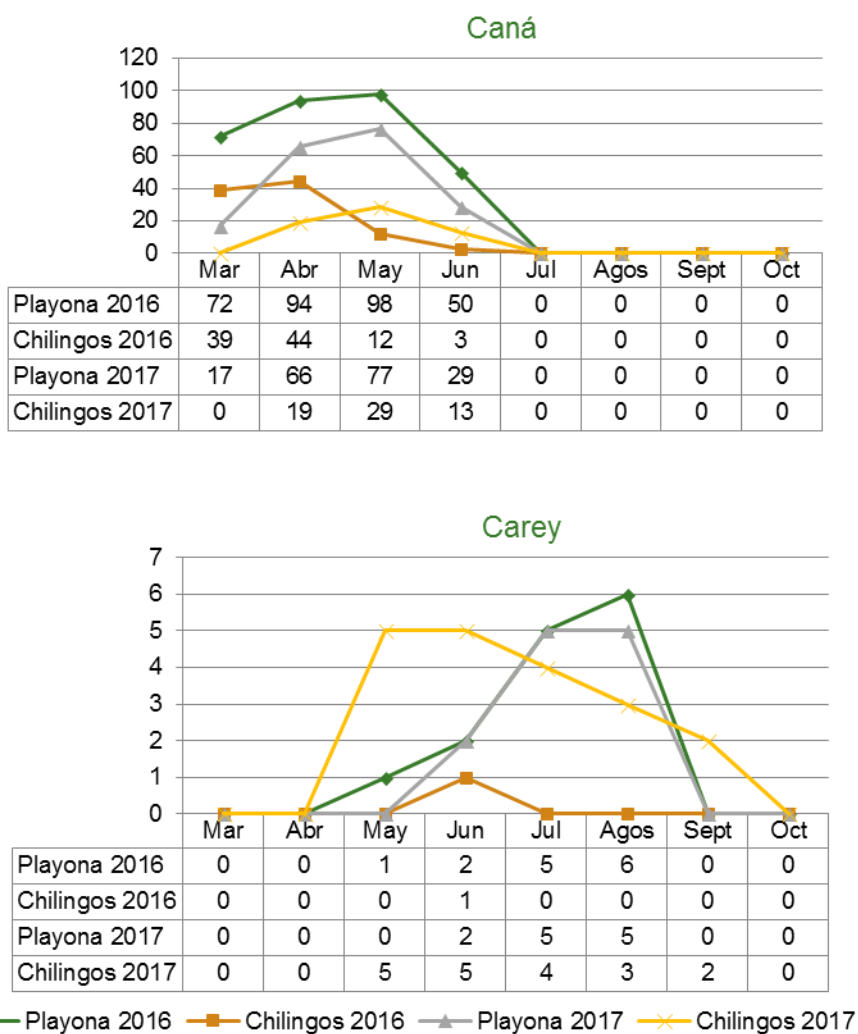
Caná

	Mar	Abr	May	Jun	Jul	Agos	Sept	Oct
Playona 2016	72	94	98	50	0	0	0	0
Chilingos 2016	39	44	12	3	0	0	0	0
Playona 2017	17	66	77	29	0	0	0	0
Chilingos 2017	0	19	29	13	0	0	0	0

Carey

	Mar	Abr	May	Jun	Jul	Agos	Sept	Oct
Playona 2016	0	0	1	2	5	6	0	0
Chilingos 2016	0	0	0	1	0	0	0	0
Playona 2017	0	0	0	2	5	5	0	0
Chilingos 2017	0	0	5	5	4	3	2	0

◆ Playona 2016   ■ Chilingos 2016   ▲ Playona 2017   ✕ Chilingos 2017

Illustration 9. Total registration of nesting of the turtles Caná and Carey in 2016 and 2017

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan Development (B3.3)

Annex 5_CCBMonitoringPlans_2013

Annex 2_UpdatedBiodiversityMonitoringPlan (section 2.2.3).

5.3.2 Biodiversity Monitoring Results (B3.1, B3.2)

Annex 8_DetailedWildlife&FloraMonitoringReport

Annex 8.1_BiodiversityAnalisys

Annex 9_FragmentationAnalysis2012_2016

Annex 10_FragmentationAnalysis2017

5.3.2.1 Flora Monitoring

The monitoring plots of the carbon reservoir were used to monitor the flora. The methodology applied for the collection of information in the field can be found in the Climate Component Monitoring Plan (section 3.1.3). The analysis was carried out with the information gathered from 120 permanent plots located in 27 transects established in the forest cover in 2012 and remediated in 2017.

5.3.2.1.1   Structure

Illustration 10 shows the diameter distribution (diameter at breast height, DBH) for trees greater than 30 cm for 2012 and 2017 measured in the Project Area. In both years, the largest number of individuals is found in the first diameter classes and decreases towards senior ranks. The trend describes an inverted "J" curve typical of advanced successional states where the proportion of individuals in the lower diameter classes is greater than the individuals of higher size, indicating the successive development of forest species, a cyclical succession, in which individuals of different species and sizes coexist. This structural feature of the forest guarantees the stability of the ecosystem through natural regeneration and the replacement of older individuals over time (Ajbilou, Marañón, & Arroyo, 2003; Yepes, del Valle, Jaramillo, & Orrego, 2010).
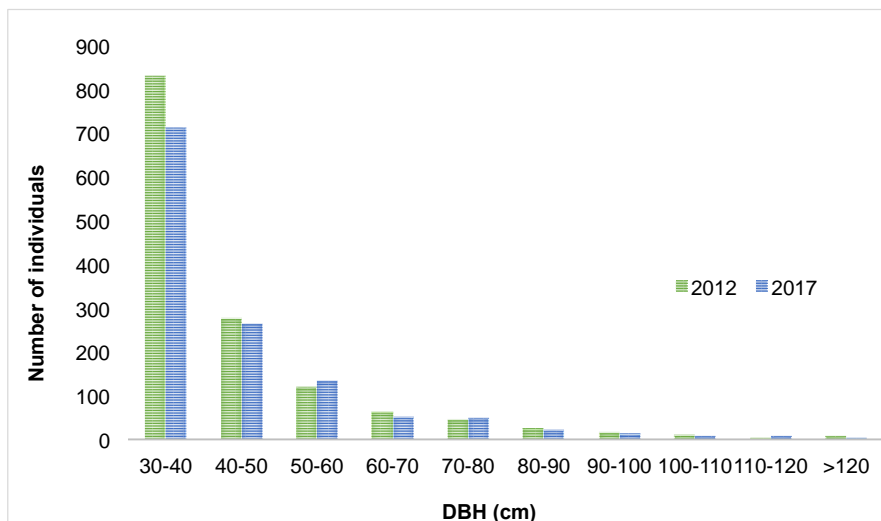

Illustration 10. Diameter distribution of all trees greater than 30 cm in diameter at breast height - DBH, measured in the Project Area in 2012 and 2017

Illustration 11 shows the distribution of heights (H) of all the palms recorded in both 2012 and 2017. The presence of individuals along the height categories shows how many palms in 2012 occupied lower classes, in 2017 they occupied larger sizes, which shows stability and group growth within the ecosystem.
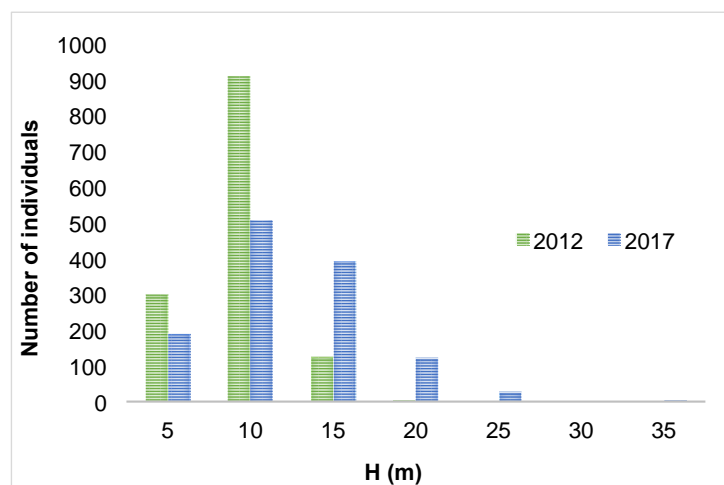
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Illustration 11. Altimetric distribution of the palms measured in the Project Area in 2012 and 2017

This increase demonstrates an entry of new individuals to the lower diameter or altimetric class and shows the dynamics of a determined population in its regeneration process, which compensates for its mortality rate and is self-maintained over time. Tree mortality is an ecological process in which a whole series of factors interact in a complex manner, being of crucial importance in the dynamics of the forest ecosystem. The results found allowed us to deduce that the forest of the CCCHD is young to mature, with a prominent trend of renovation and maintenance of the genesis with respect to the species of higher DBH (Ajbilou et al., 2003).

5.3.2.1.1   Diversity

In total, in 2012 and 2017 respectively, 52 and 50 families of tree habitat species were registered in the Project Area. In 2017, 166 species were registered with some level of taxonomic identification. A remaining 474 individuals still have not received a taxonomic identification.

Arecaceae was the family for which the highest number of species was recorded in both measurements (1316 and 1238, respectively), followed by Moraceae with more than 100 species. Table 11 shows the 10 species with the highest Importance Value Index (IVI) for the trees registered in the plots, where the most important ecological species for both measurement years are Inga sp, *Pourouma* sp, and *Trichilia* with more than 10% contribution in 2012 and more than 7% in 2017, making it dominant in frequency and relative density. The 10 species with the highest IVI represent 25% in 2012 and 18% of the importance in 2017, that is, the forest in 2017 presented greater heterogeneity compared to 2012.

Table 11. IVI values for the 10 most ecologically important tree species in the Project Area

2012		2017	
Species	IVI 100%	Species	IVI 100%
Inga sp.	4.23	*Inga sp.*	2.76

2012		2017	
Species	IVI 100%	Species	IVI 100%
Pourouma sp.	3.23	*Pourouma sp.*	2.22
Trichilia sp.	2.76	*Trichilia sp.*	2.02
Matisia sp.	2.56	*Matisia sp.*	1.96
Carapa guianensis	2.32	*Carapa guianensis*	1.72
Virola sp.	2.24	*Virola sp.*	1.71
Brosimum utile	2.02	*Brosimum utile*	1.45
Pouteria sp.	1.95	*Perebea sp.*	1.42
Perebea sp.	1.92	*Pouteria sp.*	1.30
Sapium sp.	1.73	*Sapium sp.*	1.23

Socratea exorrhiza was the most abundant palm species, with about 17% of registered individuals, followed by *Wettinia cf. quinaria* (15%), *Wettinia sp* (6%) and *Iriartea deltoidea* (4%). For both years, *Socratea exorrhiza* and *Wettinia cf. quinaria* represented more than 60% of the relative abundance of the palms present in the monitored forest.

Seven other species of ecological importance were referenced from the Project Design as indicators of forest conservation for the monitoring of biodiversity due to their importance for human use. These species were found in both periods with average diameter values of more than 50 cm up to more than 100 cm, and there is evidence of an increase in the size of individuals in the year 2017 (Table 12). The species *Cedrela odorata*, *Dipteryx oleifera* and *Minquartia guianensis* were also reported in the monitoring carried out by Bustamante (2017) in the Project Area (Table 12).

Table 12. Species of plants indicating the conservation status of the Project Area

Scientific name	Justification of its importance	Threat category [57,58,59]	2012		2017	
			Average DBH (cm)	100% IVI	Average DBH(cm)	100% IVI
Dipteryx oleifera	Threatened category and important for human use	VU	69.2 ± 52.08	0,50	86.65 ± 55.29	0,48
Cedrela odorata		EN	53.9	0,11	89.9	0,11
Anacardium excelsium		NT	112.65 ± 53.25	0.39	114.65 ± 50.41	0,29
Aspidosperma sp.[60]		EN	29.17 ±	0,75	31.00 ±	0,55

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[57] Resolution number 1912, September 15, 2017. Listing of endangered wild species of the Colombian continental and marine coastal biological diversity found in the national territory. Available in: http://www.minambiente.gov.co/images/normativa/app/resoluciones/75-res%201912%20de%202017.pdf. Inventory of the biodiversity of Colombia: http://catalogo.biodiversidad.co

[58] The IUCN Red List of Threatened Species: http://www.iucnredlist.org/

[59] NT: Near Threatened, EN: Endangered, VU: Vulnerable, CR: Critically endangered.

Scientific name	Justification of its importance	Threat category [57,58,59]	2012		2017	
			Average DBH (cm)	100% IVI	Average DBH(cm)	100% IVI
			9.96		10.65	
Minquartia guianensis	Threat category	NT	34.08 ± 23.64	1,17	38.91 ± 25.79	0,82
Caryocar amygdaliferum		VU	19.10	0,09	20.4	0,07
Astrocaryum standleyanum*		NT	6.8	0.08	5.75	0.08

* Palm with average data of H instead of DBH and Relative Abundance instead of IVI.

The Shannon-Wiener index shows that there is a high diversity of vascular plant species in the area, both in 2012 and in 2017. Simpson's diversity index, on the other hand, indicates that diversity is just at the limit between medium and high for both measurement moments (see Table 13).

Table 13. Alpha diversity indices of the flora registered in the Project Area in 2012 and in 2017

Indices	2012	2017	Interpretation	
Shannon-Wiener H´	4.58	4.66	Range 0 - 1.35 1,36 - 3.5 > 3.5	Meaning Low diversity Medium diversity High diversity
Simpson Diversity	0.67	0.65	Range 0-0.35 1.34 -0.66 > 0.67	Meaning Low diversity Medium diversity High diversity
Simpson Dominance	0.33	0.35		

According to the rarefaction curve (sample area species ratio) (Illustration 12), the diversity calculated and rarefied for 2012 is slightly lower than in 2017, however, the estimated diversity exceeds 150 species in both years. Neither of the two curves becomes asymptotic, which indicates that many species of flora can still be found in the sampling area (Galeano, 2001), that is, although the wealth is high according to the calculated diversity indices, it continues to increase with more intensive sampling.

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60 *Aspidosperma poyneuron* is in threat category EN. Although the current identification is an indeterminate species, the individual is known in the region as Costillo, same common name registered in Resolution 1912 of 2017: http://www.minambiente.gov.co/images/normativa/app/resoluciones/75-res%201912%20de%202017.pdf
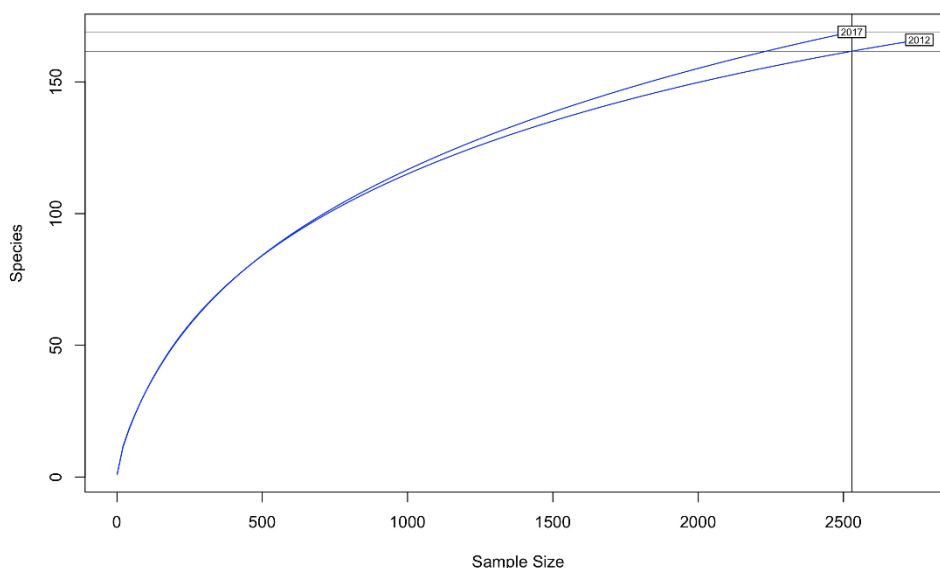
Illustration 12. Rarefaction curve for the flora registered in the Project Area in 2012 and 2017

5.3.2.2 Fauna Monitoring

Biodiversity monitoring of birds and beetles for the present monitoring period was carried out as an exercise to generate capacity in the community for sampling and collection practices, techniques that are required for the knowledge of the biodiversity status in the Project Area. Bearing this in mind, there is limitated access to local monitoring materials such as binoculars, photographic cameras and illustrated guides for the identification of species in the field, a limitation which the community can overcome with the necessary professional support and by gaining access to financial resources for the acquisition of these materials. However, with the support and involvement of the community, as well as the advice of professionals with experience in monitoring, the results presented below are a great contribution to the knowledge of the diversity of fauna in the area, and, likewise, gives evidence of the good conservation status of the Project's forests. In addition, this initial monitoring of birds and beetles is considered to be an important step to enable the communities to take ownership of their territory, come to know in detail the richness of their surroundings, and train in techniques for wildlife sampling.

Illustration 13. Community teams in biodiversity monitoring activities of the Area and Project Area

5.3.2.2.1   Bird Monitoring

For the collection of primary information in the bird inventory, the methodology described in the Monitoring Plan (Annex 2_UpdatedBiodiversityMonitoringPlan) was followed, and as such, three field trips were made on the 19th, 20th and 21st of December, 2017. Each departure lasted four hours in the morning (6:00 am to 10:00 am) and three hours in the afternoon (3:00 pm to 6:00 pm).

Two methods were used: (1) by points and (2) by intensive search. For either methods, both areas with forest cover and pasture were covered in the Project Area and areas of pasture, pasture and banks of the Tolo River in the Project Zone (in the Integrated Regional Management District "DRMI").

5.3.2.2.1.1   Taxonomic structure and diversity

During the sampling days, a total of 126 species were registered, belonging to 46 families. The birds identified in the present sampling correspond to 21% of the total number of birds registered for the Project Area and 6.5% of the total of 1,937 existing species in Colombia[61].

Fifteen individuals of *Ortalis Columbiana*, an endemic species to Colombia (locally known as the "guacharaca") were reported. The existing populations are restricted to humid forest patches and riparian forests at altitudes ranging from 100 to 2,500 meters above sea level. Its habitat has been reduced due to deforestation. Although in some areas it has been determined as a rare species, it has also been described as abundant in others. It has not been considered that its population has declined, so it is classified as a species of less concern[62].

Four indicator species for conserved forests were reported (see Table 2 of the Monitoring Plan validated in 2013): *Crypturellus soui, Dendrocincla fuliginosa, Glyphorhynchus spirurus* and *Ortalis cinereiceps*. During the sampling, two migratory species were also recorded: *Egretta caerulea* and *Cathartes aura*. This area is home to at least 30 species of birds with restricted ranges such as those recorded in this inventory: paujil of Chocó, Crax rubra, and the paca moñuda *Penelope purpurascens*. In addition, a species in the threatened category was seen in: *Aburria aburri* (wattle guan) (Table 14).

Table 14. Species of birds indicating the state of conservation

Scientific name	Justification of its importance	Threatened category [63,64,65]	Relative Abundance
Aburria aburri	In threatened category	NT	0.05%
Ortalis cinereiceps	Restricted to mature forest and large fragments	LC	0.05%
Crypturellus soui		LC	0.15%
Glyphorynchus spirurus		-	0.05%
Dendrocincla fuliginosa		LC	0.16%

The most abundant species in the study area are *Progne chalybea, Amazona autumnalis* and *Crotophaga ani* (Table 15). These species are widely distributed, native to the American tropics and humid forests, and are well adapted to these habitats where they can find good food sources, shelter and means of reproduction and subsistence.

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61 https://www.sibcolombia.net/actualidad/biodiversidad-en-cifras/

62 http://www.iucnredlist.org/details/22728519/0

63 Resolution number 1912, September 15, 2017. Listing of endangered wild species of the Colombian continental and marine coastal biological diversity found in the national territory. Available in: http://www.minambiente.gov.co/images/normativa/app/resoluciones/75-res%201912%20de%202017.pdf

64 The IUCN Red List of Threatened Species: http://www.iucnredlist.org/

65 LC: Least concern, NT: Near threatened, EN: Endangered, VU: Vulnerable, CR: Critically endangered.

Table 15. Relative abundance of the most abundant bird species recorded in the current monitoring period

Scientific name	Relative abundance (%)
Progne chalybea	12.59
Amazona autumnalis	6.87
Crotophaga ani	5.72
Milvago chimachima	4.30
Cyanocorax affinis	3.72

The Simpson index shows that, according to the sampling carried out, there is a high diversity and low dominance of bird species when using both sampling methods and for all sampled areas. The Shannon-Weaver index also indicates high diversity (Table 16).

Table 16. Alpha diversity indices for birds registered in the Project Area in 2017

Index	Value	Interpretation	
Shannon-Wiener H´	3,88	Range 0 - 1.35 1,36 - 3.5 > 3.5	Meaning Low diversity Medium diversity High diversity
Simpson diversity	0.96	Range 0-0.35 1.34 -0.66 > 0.67	Meaning Low diversity Medium diversity High diversity
Simpson dominance	0.038		

The rarefaction curve (Illustration 14) approaches the asymptote, which indicates that sampling was sufficient. The estimated wealth exceeds 120 species.
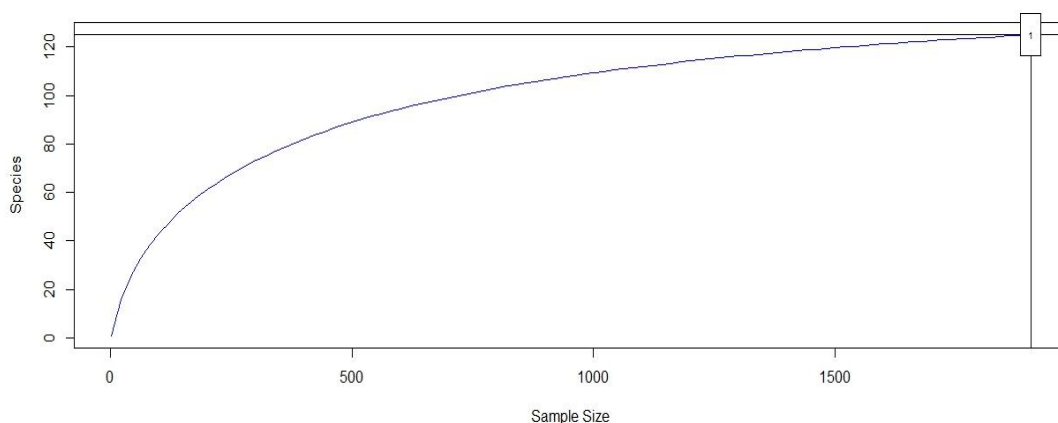

Illustration 14. Rarefaction curve for birds registered in the Project Area in 2017

The Chocó-Darién conservation corridor has a high representation of bird species. Los Katios National Natural Park and its area of influence is within the IUCN and is a KBA area (Key Biodiversity Area) [66], which is associated with the presence of preserved forest covers during the monitoring period and previous years, which favors the establishment and reproductive success of both native endemic and migratory species.

The high alpha diversity of birds found in this monitoring is consistent with that reported by Bustamante (2017) in the study of fauna and flora carried out in the Project Zone, in Peñaloza and with the reports of IIAP and CODECHOCÓ (2011). Bustamante also found *Tyrannide* as one of the most representative families in the area.

5.3.2.2.2   Beetles monitoring

Dung beetles have been considered as an important ecological group in determining the state of conservation of a forest because this group of insects is sensitive to changes in coverage and forest connectivity (Filgueiras, Iannuzzi, & Leal, 2011; Nichols et al., 2013; Slade et al., 2013) and responds to alterations in the micro-climate (Klein, 1989). The dung beetle's inventory generates baseline knowledge to continue with its monitoring in future monitoring and thus have information about the ecological processes that are developed in the Project Area.

For the collection of dung beetles, traps were set according to each of the methods to be applied (carrion traps and traps with feces), following the methodology proposed by Celi & Dávalos (2001) (see Annex 2_UpdatedBiodiversityMonitoringPlan).

5.3.2.2.2.1   Taxonomic structure and diversity

A total of 1,403 individuals were collected, belonging to three families and 12 genera. Traps with human feces had a greater representativeness in number of captured individuals compared to carrion traps, representing 91% and 9% of the collected samples respectively. The most abundant family was *Scarabaeidae* with 10 genera identified, followed by *Scolytidae* and *Staphylinadae* with 1 genus each.

Among the most abundant genera found were *Canthon* (378 individuals, 26.9%), *Canthidium* (299 individuals, 21.3%), *Ateuchus* (248 individuals, 17.7%) and *Onthophagus* (236 individuals, 16.8%). This suggests that species of these gens recognize particular conditions associated with these sampled environments, perhaps related to structure and type of vegetation, micro-climatic conditions, and availability and quality of resources. These characteristics have been pointed out by several authors as determinants of the presence and abundance of these beetles in habitats (Halffter & Matthews, 1966; Horgan, 2007, 2009). The gens with less representativeness are *Trichillidium* (3 individuals, 0.2%), *Phanaeus* (2 individuals, 0.1%), *Xyleborus* (1 individual, 0.07%).

According to the Shannon index, the diversity was 1.79, the Simpson dominance index is 0.81 and the diversity index is 0.19. These results indicate that the diversity of beetles sampled in the Project Area is

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low, as shown in Table 17, however, it is estimated that greater diversity could be found, as explained in the following paragraphs.

Table 17. Alpha diversity index for dung beetles registered in 2017

Index	Value	Interpretation	
Shannon-Wiener H´	1.79	Range 0 - 1.35 1,36 - 3.5 > 3.5	Meaning Low diversity Medium diversity High diversity
Simpson diversity	0.19	Range 0-0.35 1.34 -0.66 > 0.67	Meaning Low diversity Medium diversity High diversity

The rarefaction curve (Illustration 15) for the dung beetles recorded in the Project Area shows that diversity could be much higher than that recorded since the curve is still far from the asymptote.
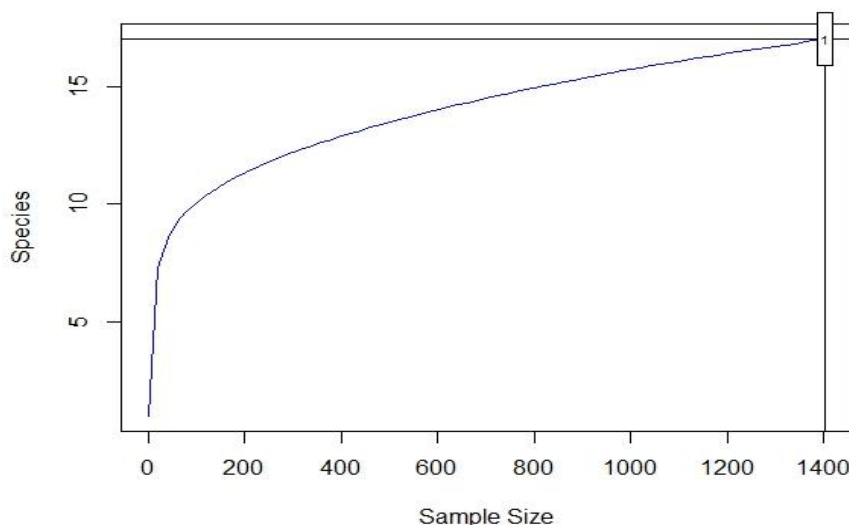

Illustration 15. Rarefaction curve for dung beetles registered in the Project Area in 2017

The reported results give an idea about the presence of dung beetles in the study area and, although the diversity indices state low values, the species accumulation curve indicates that it could be possible to find even more species in the area, information that would likely submerge with a greater sampling effort. Nonetheless, as explained above, the monitoring of beetles requires that the community applies scientific methodologies to obtain the data, so local capacitation and improvement of the monitoring practices could enable data collection advances during the development of the Project.

With the current results, it is not possible to draw conclusions about the beetles as indicators of the state of the forest given the low sampling intensity, as well as the level of taxonomic identification that was

achieved during the current monitoring period. Nevertheless, the physical collections of the insects are currently under review by experts at the Technological University of Chocó and will be shared in agreement with other universities in the country in order to obtain more details about the taxonomic identification of the data collection. Any subsequent monitoring is expected to increase the sampling intensity so that complementary results are obtained that can serve to support a conclusion on the beetles as indicators.

Following are some general conclusions about biodiversity monitoring.

According to the diversity patterns found by collecting data based on both plants in multi-temporal studies and birds in characterization studies, the diversity of the Project Area is determined to be high and registering above that of other regions of Colombia, making this region an important economic and social focus for the country.

The actions carried out by the community, through COCOMASUR, to protect their local ecosystem are reflected in the results of this study, validating that the replacement of species, the abundance of native species and the establishment of endemic species is important because they act as indicators of the conservation level of the forests present in the Project and DRMI areas. Going forward, it will be necessary to continue implementing projects such as these that fill data gaps on the biodiversity in this area as well as improve the monitoring results of the community, in order to identify conservation priorities in this local and global biodiversity hotspot. It is here that the need to continue with the generation of capacities in the community is identified so that they carry out monitoring activities with the frequency and quality defined in the Monitoring Plan.

5.3.2.3 Monitoring of aquatic macroinvertebrates

Lotic environments (rivers, streams, creeks) are the dominant systems of epicontinental waters and are differentiated from other aquatic systems by having a unidirectional water flow (Guiller & Malmqvist, 1998). These systems are considered one of the most important natural resources for life, however, in recent decades they have suffered great impacts caused by human activities which have led to a substantial reduction of aquatic diversity (Lara-Lara et al., 2008).

Aquatic macroinvertebrates play an important role as bioindicators of the quality of the lotic ecosystems in which they reside. These individuals comprise a large portion of the aquatic diversity, which is why they are often the main animal component in lotic ecosystems. These organisms play an important role in the trophic network of freshwater systems by controlling the quantity and distribution of their prey and constituting a food source for terrestrial and aquatic consumers by accelerating the decomposition of debris and contributing to the recycling of nutrients (Nieves, Rosas, & Hornedo, 2010). These have been used as biological indicators of the quality of the ecosystems and have shown their total effectiveness in the detection of points of alteration of the resource (Alba-Tercedor, 1996). What is more, the members of this community are sensitive to organic pollution and habitat degradation and, for this reason, their potential as a water quality bioindicator is valuable in the environmental assessment of water resources (Merritt & Cummins, 1996).

The objective of aquatic macroinvertebrae monitoring in the current study is to evaluate the water quality of the Tolo and Tanela rivers, which both form part of the Project Area, in accordance with the defined

monitoring plan (Annex 2_UpdatedBiodiversityMonitoringPlan). The current study's specific objectives with regards to monitoring aquatic macroinvertebrae are: (1) to measure the volume of water (base flow) upstream and below the Toló and Tunela rivers; (2) to evaluate the quality of the water and the sediment load, upstream and downstream, of the Tolo and Tanela rivers, and; (3) to determine the index of diversity of macroinvertebrates, upstream and downstream of the Tolo and Tunela rivers. The Tolo and Tanela rivers are located within the jurisdiction of the municipalities of Acandí and Unguía respectively, in the department of Chocó. Illustration 16 shows the sampling points.

| Tolo River, upstream | Tolo River, downstream |

| Tanela River, upstream | Tanela River, downstream |

Illustration 16. Sampling points of aquatic macroinvertebrates in the Tolo and Tanela rivers

5.3.2.3.1   Taxonomic structure and diversity

In the Tolo River, a total of 587 aquatic macroinvertebrae individuals were recorded: 35.6% upstream and 64.4% downstream, grouped into two classes, 11 orders, 26 families and 38 genera. In the case of the Tanela River, 395 individuals were registered: 34.2% upstream and 65.8% downstream, grouped into one class, 9 orders, 24 families and 38 genera. The following paragraphs present some factors that may explain this distribution of species in the monitoring zones.

Table 18 shows the values of the diversity index for the population of aquatic macroinvertebrates registered in both the Tolo and Tanela Rivers. Overall, the highest number of genera found in the Tolo

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River was recorded upstream (27) while for the Tanela River, the highest number of genera was registered downstream (34).

All Shannon-Wiener diversity values registered were less than 2.3 for all sampling points, which correspond to an "average diversity" according to the ranges set by the index. The Simpson dominance index, which oscillates between zero and one, "zero" representing places without dominant groups and "one" representing places that are characterized by the presence of dominant taxa, registered values lower than 0.5, indicating that there is no dominance of any particular family or genus found in the Tolo and Tanela Rivers.

Table 18. Parameters of diversity for the community of macroinvertebrates in the Tolo and Tanela rivers

Index	Tolo River		Tanela River	
	Upstream	Downstream	Upstream	Downstream
Number of taxa	27	24	14	34
Shannon-Wiener H' diversity	2,23	1,75	1,43	2,29
Simpson λ dominance	0,21	0,34	0,44	0,18

5.3.2.3.1   Water quality of the Tolo and Tanela Rivers

In terms of the data collected pertaining to water quality, the BMWP / Col[67] index values registered in the Tolo and Tanela Rivers ranged between 75 and 142 (Table 19). On one hand, the Tolo River, both up and downstream, and the Tanela River downstream, registered values between 101-120 and > 150, indicating that they have "good" water quality, that the water is "very clean" or not sensitively altered. On the other hand, the upstream portion of the Tanela River registered values between 61 and 100, indicating waters of "acceptable" quality, corresponding to slightly polluted waters according to the scale published by Roldán (2003). These results, therefore, show a prevalence of sensitive families belonging to the *Plecoptera*, *Ephemeroptera* and *Trichoptera* orders, which have high scores in the BMWP / Col index. In the case of the Tanela River's upstream portion, its "acceptable" quality seems to be related to mining activity, which was evidenced during the sampling by the conditions of the substrate. In this regard, it is important to point out that mining pollution generates serious effects on living beings, especially on the most sensitive groups, an effect which is manifested through changes in the structure of the community of benthic macroinvertebrates present in the water bodies affected. Some investigations, such as those of García-Criado et al. (1999) and Marqués, Martínez-Conde, and Rovira (2001), have shown that mining activities produce a reduction in the number of macroinvertebrae taxa belonging to the Ephemeroptera, Plecoptera and Trichoptera orders.

The water quality upstream of the Tanela River could also be associated with the waste from the production of cocaine base paste in the kitchens and crystallization laboratories, seeing as coca leaf

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[67] BMWP Method (Biological Monitoring Working Party) (Roldán, 2003).

production increased in that area between 2012 and 2013 (Illustration 17). This process generates polluting waste such as gasoline, bases, acids, oxidants and ammonia.
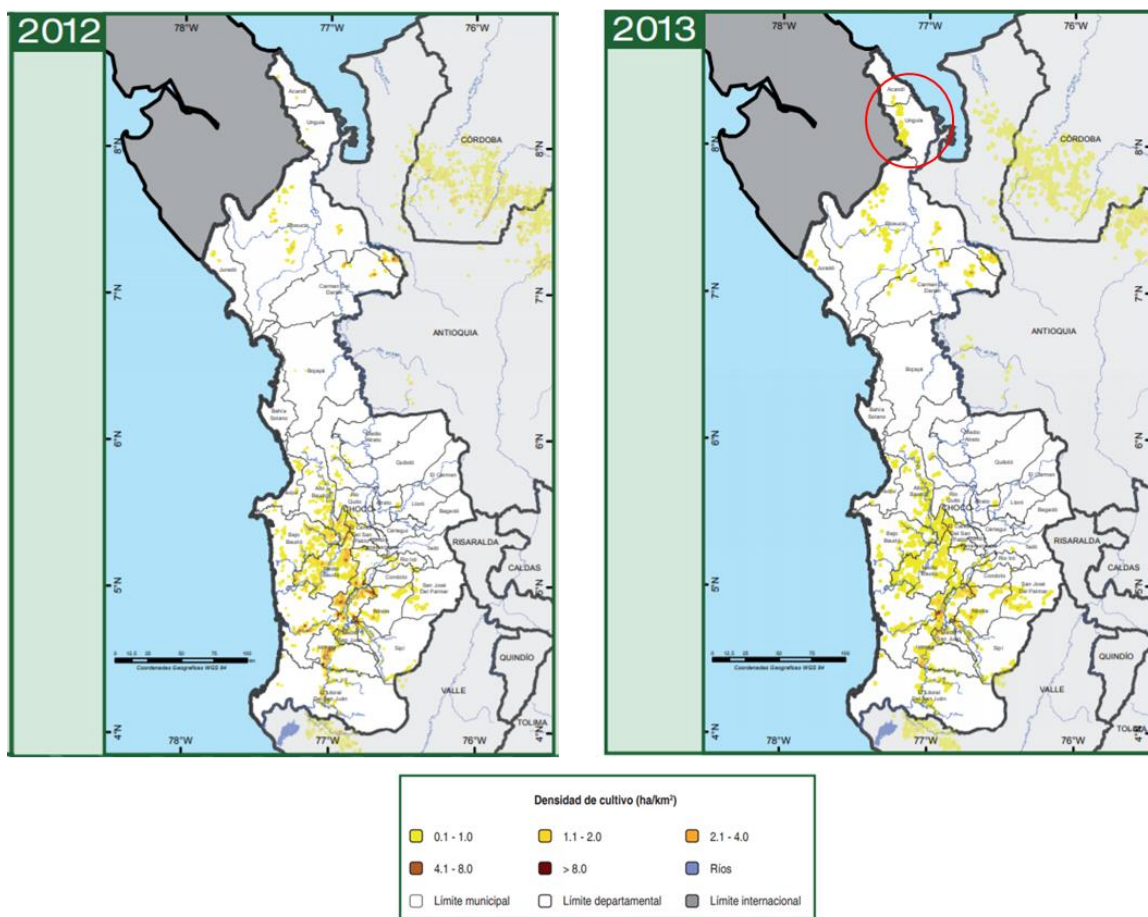

Illustration 17. Crop Density of Coca 2012-2013 in Chocó (Minjusticia - UNODC, 2013), red circle, Unguía, Chocó: upstream of the Tanela River

In the case of the ASPT index, the sampling points located in the Tolo and Tanela rivers have Type II waters, categorized as "acceptable" (slightly contaminated) (Table 19). These slight differences in the results obtained by the BMWP / Col and the ASPT indices are attributable to the fact that the latter is more sensitive to anthropic intervention since it considers the wealth of families in its calculation, It is important to note that these two indices are closely related, which is substantiated by the works of Arango, Álvarez, Arango, Torres, & De J. Monsalve (2008); Bustamante-Toro, Marín-Villegas, & Corredor-Coy (2011); Ramírez, Talero, & López (2013), who report how the joint use of these two indexes provides reliable information to define water quality in ecosystems subject to various types of anthropic disturbances.

Table 19. Values of the BMWP / Col and EPT index for the rivers studied

Rivers (spots)	Quantity of families (identified)	BMWP/Col value		ASPT value	
Tolo - upstream	20	125	>150, 101-120 Type I, good quality, very clean waters	6,75	Type II Acceptable quality, slightly contaminated water: effects are evident of pollution
Tolo - downstream	18	111		6,77	
Tanela - downstream	21	142		6,95	
Tanela - upstream	12	75	61-100 Type II Acceptable quality, slightly polluted waters	6,82	

5.3.2.4 Monitoring of vegetation cover for the evaluation of habitat fragmentation

The processing of high-resolution multispectral satellite images allows for a more detailed observation of land cover. Taking into account the characteristics of the Project Area, the available resolution of visual information constitutes a fundamental factor when analyzing the dynamics of the local ecosystems. Unfortunately, these types of images are not freely accessible, making it necessary to purchase them from certified distributors, producing an increase in monitoring costs that the community must undertake. Additionally, the cost of these images is considerably high, which restricts the development of multi-temporal series for a certain period. As a direct consequence, projects are forced to work (in most cases) with an image from one single moment, despite image conditions such as cloudiness and fog present at the time of capture.

Considering these limitations, for this monitoring period, two different procedures were carried out: (1) the creation of a base map of habitats and the evaluation of spatial arrangements and fragmentation for the year 2017, using satellite information in high spectral resolution (RapidEye), and; (2) a multi-temporal comparison of the coverage change (forest to non-forest) for the period of 2012-2016, using information available at the country level in lower spectral resolution (Landsat).

5.3.2.4.1   Map and assessment of habitat fragmentation in the Project Area in 2017

In order to achieve an approximation of an updated, base habitat map with the highest level of detail available, a land cover image was attained by processing high-resolution remote sensor images from the year 2017. Within this context, the selected inputs were the PlanetScope satellite images, donated by the Forest and Carbon Monitoring System (SMByC) of the Institute of Hydrology, Meteorology and Environmental Studies - IDEAM. The characteristics of this type of product are mentioned in Table 20.

Table 20. Characteristics of PlanetScope images

Characteristics	
Spectral Bands	Blue 440 – 510 nm
	Green 520 – 590 nm
	Red 630 – 685 nm
	NIR 760 – 850 nm
Spatial Resolution	3 meters
Radiometric Resolution	16 bits

The processing method is based on the capture protocol of the non-forest forest cover of the SMByC (Galindo, Espejo, Ramírez, et al., 2014). The detailed procedure is found in Annex 10_FragmentationAnalysis2017.

5.3.2.4.1.1   Vegetation cover in the Project Area

The predominant coverage in the Project Area is forest, which covers 88.86% of the territory, divided into three categories: Very Humid Premontane Forest, Tropical Humid Forest and Gallery Forest (Table 21, Illustration 18). At the time of the image capture, 6.84% of the area was covered by clouds and cloud shadows, which is why it is considered as an area without information.

Table 21. Table of areas for the coverage map, 2017[68].

Coverage	Area (ha)	Area (%)
Very wet premontane forest	1,495.05	11.75%
Tropical moist forest	8,855.86	69.58%
Pastures	326.75	2.57%
Scrub	220.14	1.73%
Gallery forest	959.14	7.54%
Shades	194.39	1.53%
Clouds	676.19	5.31%

[68] Areas calculated under the projection Gauss-Krüger Datum MAGNA-SIRGAS, Western origin.
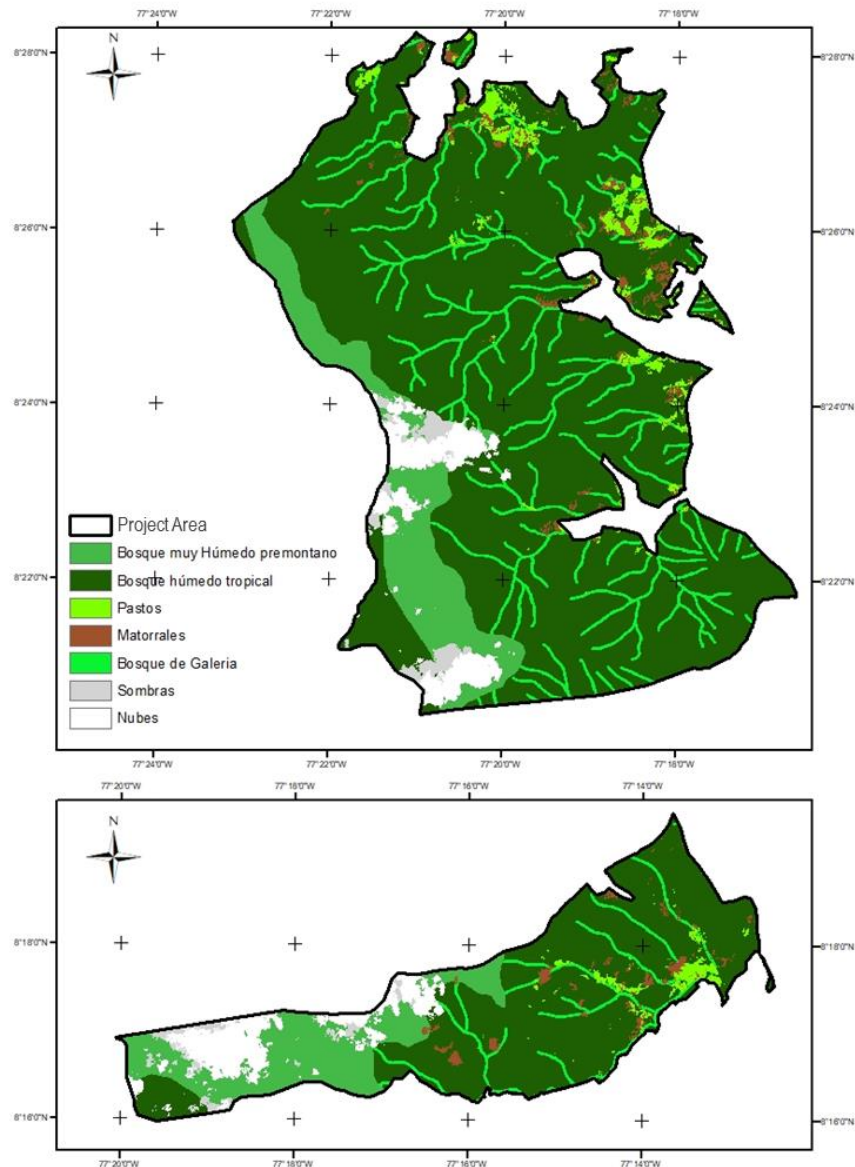
Illustration 18. Map of coverage of the Project Area in 2017

5.3.2.4.1.2   Spatial arrangement of habitat types

The metrics of the landscape are constituted by diverse indices with which parameters of form and connectivity are determined to allow the characterization of the morphology, meaning, in this case, the habitats present in the Project Area. The objective of this procedure is to establish whether the ecological units have a particular configuration, such as a specific average area, or a regular or irregular form. The software used for this calculation was Fragstats Version 4 (Mcgarigal, Cushman, & Ene, 2012) that has a series of metrics at the level of patch and category, aimed at determining relationships of form, neighborhood and connectivity.

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The analysis of the landscape metrics for the identified covers in the area showed that the patches present are uniform in size and follow regular, compact and consolidated forms. However, the gallery forest presented a shape value of 2.24, indicating a disaggregated landscape form due to its elongated shape following the drainage channels in the study area. The contiguity or continuity index shows that all spatial units have high connectivity between their patches (represented by values close to 1).

Table 22. Landscape Metric of land cover in the Project Area (average of each of the spatial units)

Coverage / Index	Frac	Shape	Contig
Gallery forest	1.16	2.24	0.72
Pastures	1.15	1.85	0.74
Tropical moist forest	1.13	1.70	0.64
Scrub	1.15	1.79	0.78
Very wet premontane forest	1.14	1.84	0.78

Frac: Reflects the complexity of the shape through a spatial scale related to the size of the patch (1≤ x ≤2). **Shape**: Relates the perimeter of the patch with the minimum possible perimeter for a compact patch that follows a Euclidean shape, 1, when the patch is compact (e.g. square). **Contig**: It allows to quantify the contiguity or spatial connectivity of the units of the landscape, by means of the evaluation of a kernel (window of cells) that makes a count of present units of the same class (value close to 1 shows connectivity in the landscape).

5.3.2.4.1.3 Fragmentation analysis

Fragmentation is defined by several authors as the process in which a landscape consisting of a large, consolidated habitat is transformed into small patches, isolated from each other by a matrix of habitats that do not correspond with the original (Larrey-Lasalle et al., 2018). The United Nations Organization for Food and Agriculture (FAO) makes a more detailed definition regarding the fragmentation of the Natural Forest, where the permanent or temporary deterioration of the structure of the forest cover is produced by anthropogenic activities associated with the processes of use and change of land cover originating from different causes such as the expansion of the agricultural frontier, illicit activities, road infrastructure and fires, among others (FAO, 2011). Still, fragmentation can also be associated with events of a natural origin.

The process of fragmentation contributes to the presence of a large number of ecological processes such as an increase in species associated with shrubs, with lower biomass, an increase in tree mortality and a loss of biodiversity and inducing alterations in microclimates which affect the humidity and temperature of a particular area (Mcgarigal et al., 2012).

To estimate the amount and distribution of dense and fragmented forest in the study area, the methodology presented by Vogt et al. (2007) was followed (Annex 10_FragmentationAnalysis2017).

In the Project Area, the spatial distribution of very wet premontane forest is concentrated in the western side of the territory, with areas reaching over 800 meters above sea level. This portion of the Project Area represents the area with the highest level of forest conservation, displaying no evidence of alterations of anthropic origin and where the stable forest habitat predominates (Illustration 19).

Towards the eastern side of the territory are the pastures and bushes (Illustration 18); in general, these two ground covers are concentrated near the rivers with the largest channel and the populations present in the study area. It is important to note that some patches are isolated in the central part of the Project Area, which may be of anthropic origin or consequence of natural phenomena (Illustration 19).

It was evidenced that the only patches of natural forest with some degree of fragmentation are found towards the eastern edge of the Project Area (red areas in Illustration 19), which indicates a good state of conservation of the large forest matrix. In general, fragmentation indices may be affected by areas without information that cut the spatial continuity of forest cover present, especially in the case of very humid premontane forest (Illustration 18). The results show that the most consolidated coverings are humid tropical and very humid premontane forests, which have higher LPI values than the other coverage categories (7.13 and 1.22). Unsurprisingly, pastures and bushes have the highest number of patches and the lowest LPI, likely because they constitute of a considerable volume of small, fragmented patches. The gallery forest presents an intermediate LPI value of 0.2 (Table 23).

Table 23. Indices associated with fragmentation of forest cover in the Project Area

Coverage	NP	PD	LPI
Gallery forest	216	0.49	0.22
Pastures	388	0.88	0.06
Tropical moist forest	333	0.75	7.13
Scrub	559	1.26	0.04
Very wet premontane forest	64	0.14	1.22

NP: Number of patches. **PD**: Patch density (number of patches per 100 ha). **LPI**: index of the largest patch that quantifies the percentage of the total area of study compressed by the largest patch (close to 0 when the largest patch of a given class is very small, showing evidence of fragmentation).
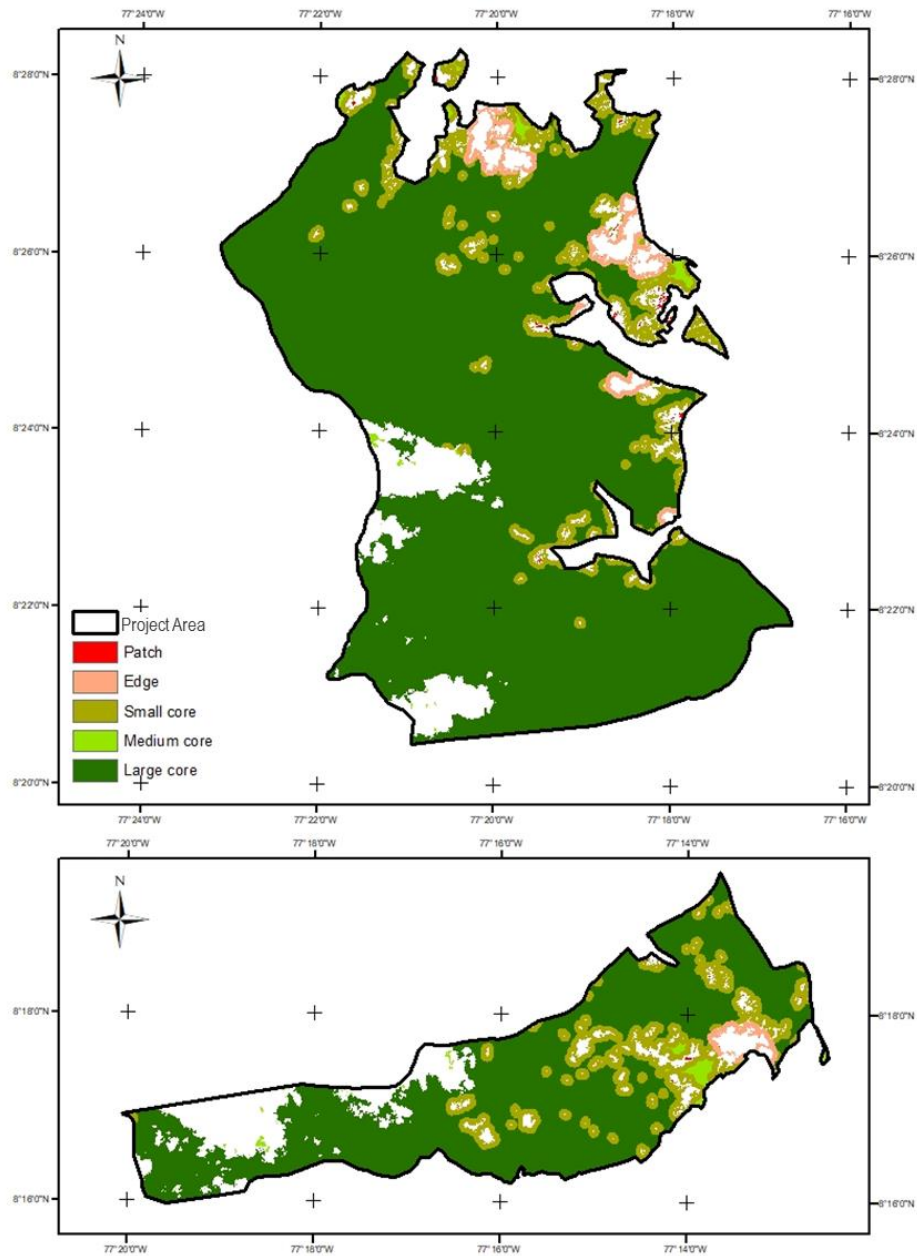
Illustration 19. Map of the natural forest and its degree of fragmentation in the Project Area. Patch: fragmented forests; Edge: Limits between the forest and the non-forest (zone susceptible to degradation due to fragmentation); Core: areas of dense forest (small core: patches under 250 acres; medium core: patches between 250 and 500 acres; large core: patches larger than 500 acres) [69]

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[69] Definition of the categories by the tool LFT v 2.0: http://clear.uconn.edu/%5C/tools/lft/lft2/method.htm

The assessment of forest cover fragmentation in the habitats identified within the Project Area shows that, overall, the natural forest is not considered to be fragmented. The base information for the year 2017 can be compared with other images of the same spatial resolution in subsequent monitoring programs, in order to be able to identify possible changes in the metrics evaluated in this analysis.

5.3.2.4.2   Multitemporal fragmentation analysis

Given the absence of high resolution satellite information with little cloud interruption between the years 2012 and 2016, a coverage change analysis was made for both of those years by comparing two geographical layers of Forest - No Forest data, generated by the IDEAM from the digital processing of remote sensing satellite images of medium spatial resolution (30 m), using the methodology established by the "Forest and Carbon Monitoring System" (Galindo et al., 2014).

The fragmentation analysis showed that the distribution of the consolidated forest was similar in the two years. Small changes were observed in the eastern portion of the area, where the forest has been transformed into No Forest. Despite this, the changes observed represent a very small change (<0.69% of the total area of study) (Illustration 20).

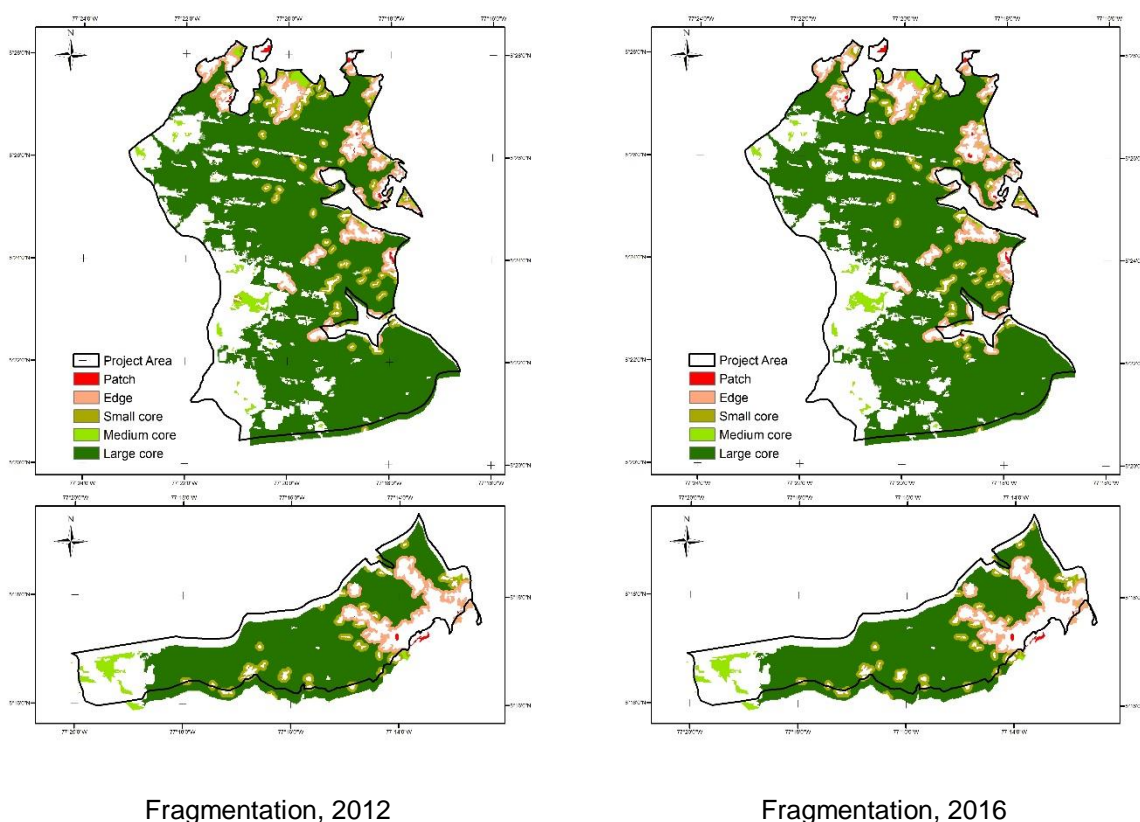Fragmentation, 2012   Fragmentation, 2016

Illustration 20. Fragmentation of forest cover in 2012 and 2016

The LPI value for the forest cover in the Project Area was much higher than 1 for both years analyzed, which shows a continuous and concentrated spatial configuration, indicating a low degree of fragmentation (Table 24).

Table 24. Indices associated with fragmentation of forest cover in the Project Area

Year	Land Cover	NP	PD	LPI
2012	Non-Forest	148.00	0.33	0.72
	Forest	56.00	0.12	15.45
2016	Non-Forest	146.00	0.32	0.71
	Forest	66.00	0.15	15.29

NP: Number of patches. **PD**: Patch density (number of patches per 100 ha). **LPI**: index of the largest patch that quantifies the percentage of the total area of study compressed by the largest patch (close to 0 when the largest patch of a given class is very small, being evidence of fragmentation).

These results show the conservation of the large forest matrix in the Project Area between 2012 and 2016.

5.3.2.5 Effectiveness of measures used to maintain or enhance HCVs

The results from monitoring the local biodiversity, described in sections 5.3.2.1, 5.3.2.2, 5.3.2.3 and 5.3.2.4, evidence the current status of the High Conservation Values of the Project Area's biodiversity. The main findings from the monitoring period related to the Project's VPAs are described below (Table 25).

Table 25. Measure used and main findings of the monitoring that allow to demonstrate the status of the HCVs of the Project's Biodiversity

Used measurement	Main findings
HCV1 Significant global, regional or national concentrations of biodiversity values	
• Evaluation of the composition and structure of birds and plants	• The vegetation structure in the Project Area continues to display typical characteristics of advanced successional stages, in which individuals of different species and sizes coexist (Illustration 10, Illustration 11). • Threatened plants: *Minquartia guianensis, Anacardium excelsum, Aspidosperma sp., Cedrela odorata, Caryocar amygdaliferum, Dypterix oleifera, Caryocar amygdaliferum* and *Astrocaryum standleyanum* (Table 12). • Migratory birds identified: *Egretta caerulea* and *Cathartes aura* (5.3.2.2.1.1). • The Simpson and Shannon-Wiener indices showed that, according to the sampling carried out, there is a high diversity of plants and birds in the Project Area (5.3.2.1.1, 5.3.2.2.1.1). The curve of rarefaction indicates that the richness of vascular plant species may increase with an increased sampling intensity (Illustration 12).

Used measurement	Main findings
• Community observation of mammal and reptile species in threat categories	The observation of animal species is an activity that the community performs permanently and, although it is not part of the monitoring plan, the visual practices and identification of sounds of these taxonomic groups provide complementary information to indicate the state of biodiversity in the area. • Mammals in a state of threat: howler monkey, *Alouatta palliata* (VU), and the spider monkey, *Ateles fuscisceps rufiventris* (EN)[70,71]. • Amphibians in state of threat: clown frog, *Atelopus varius* (CR), and *Dendrobates auratus* (LC) (Bayly, Díaz-Bohórquez, A.M. López-Perilla, & Medina-Rangel, 2014)[72]. Howler monkey (*Alouatta palliata*) observed in the DRMI *Dendrobates auratus* Girard observed in the Project Area • Reptiles threatened: Boa constrictor, Saltarroyo, Basiliscus basiliscus and Lobito (Cnemidophorus lemniscatus) in category (LC) according to the IUCN.

[70] Resolution number 1912, September 15, 2017. Listing of endangered wild species of the Colombian continental and marine coastal biological diversity found in the national territory. Available in: http://www.minambiente.gov.co/images/normativa/app/resoluciones/75-res%201912%20de%202017.pdf

[71] LC: Least concern, NT: Nearly threatened, EN: Endangered, VU: Vulnerable, CR: Critically endangered.

[72] The IUCN Red List of Threatened Species: http://www.iucnredlist.org/

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Used measurement	Main findings
	Boa constrictor observed in the Zone Project
	• In the 2014 -2017 period, COCOMASUR reported an average arrival of 320 Cana turtles and 19 Hawksbill Turtles to Colombia's National Natural Parks (5.2.2). *Dermochelys coriacea* in the Project Area (VU)

Conclusion HCV1. As of the end of this monitoring period, the Area and the Project Zone are home to significant concentrations of fauna and flora that hold local, regional, national and global importance, some of which have been identified as endangered according to the IUCN, a wealth that also includes endemic species with restricted distribution ranges.

HCV2 Great forest landscapes significant globally, regionally or nationally

HCV3 Forest areas that are in or contain rare, threatened or endangered ecosystems

• Monitoring of plant covers • Descriptive analysis of the connectivity between areas under protection and ecosystem conservation schemes	• The Project Area serves as a conservation corridor between areas with different conservation and environmental protection schemes, including but not limited to public, protected natural areas such as the Darién National Park in Panama, the Los Katios National Natural Park, the Protective Forest Reserve of the Darién and the Regional District of Integrated Management (DRMI) Playona-Loma La Caleta (all within Colombia). Private Natural Reserves of the Civil Society are also present in this area (5.1.1). • By analyzing fragmentation in the study area, it was evidenced that the only patches of natural forest with some degree of fragmentation are found towards the eastern edge of the Project Area (red areas in Figure 15), which indicates a good state of conservation of the large forest matrix. • The LPI value for forest coverage was much higher than 1 in both 2012 and in 2016, which shows a continuous and concentrated spatial configuration, being an indicator of a low degree of fragmentation (Table 24).

Used measurement	Main findings
Conclusion HCV2 y HCV3. As of the end of this monitoring period, the Project Area serves as a conservation corridor between areas with different conservation and environmental protection schemes, which contain rare, threatened or endangered ecosystems such as the forests of the Serranía del Darién. It is for this reason that the Project Zone is within the area of influence of two KBA (Key Biodiversity Area) category zones.[73]	
HCV4 Forest areas that provide basic natural services in critical situations	
• Monitoring of macroinvertebrates in the waters of the Tolo and Tanela rivers	• Based on to the Shannon-Wiener index, the highest value is registered upstream in the Tolo river whereas downstream in the Tanela River, the values indicated a low diversity of aquatic macroinvertebrates (5.3.2.3). • According to the values of the BMWP / Col index, the Tolo River, upstream and downstream, and the Tanela River, downstream, have good water quality, while upstream in the Tanela River, the waters are of "acceptable" quality due mainly to mining activities and the chemical production processes of cocaine (5.3.2.3.1).
Conclusion AVC4. The local natural ecosystems are providing the service of purifying and cleaning the local water resources, which contributes to the water quality for the monitored areas being within acceptable ranges (of good quality), which helps to balance the anthropic impacts to the water resource.	

5.3.3 Monitoring Plan and Results Dissemination (B3.3)

Printed copies (one copy per each each local council) of the summary of the entire Monitoring Report were distributed among the community (section 2.3.2).

As described in the section 3.1.4, the results of this monitoring were socialised through workshops in the local councils.

Furthermore, after the execution of every project or agreement, information meetings are held to present the results obtained. All of the works carried out relating to biodiversity in the area are also made available on COCOMASUR's website (http://cocomasur.org/).

6 ADDITIONAL PROJECT IMPLEMENTATION INFORMATION

There is no additional information related to the implementation of the Project.

7 ADDITIONAL PROJECT IMPACT INFORMATION

Based on the monitoring carried out by the community, it can be concluded that the Project Area has a special importance in terms of biodiversity, presenting high rates for such in the different monitored taxa as well as having endemic species (with restricted distribution ranges) provide habitat for threatened species in different categories according to the IUCN, be a little fragmented area and be within the area of

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[73] http://www.keybiodiversityareas.org/site/mapsearch.

influence of two areas cataloged worldwide as a Key Area for Biodiversity – KBA: in Colombia: KBA Capurganá, and in Panamá: KBA Darién.[74]

The results of this monitoring allowed to identify and measure additional benefits provided by the protection of the forest in the Project influence area. Additionally, the community empowering potential of the monitoring activities was identified. Therefore, it is recommended to follow through with the improvement of the local capacities through the establishment of alliances with organizations or people with technical expertise in the three monitoring components: Climate, Community and Biodiversity.

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[74] http://www.keybiodiversityareas.org/site/mapsearch

8   APPENDIX 1: BIBLIOGRAPHY

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9   APPENDIX 2: LIST OF ANNEXES

Número de Anexo	Nombre	Status
1	CommunityIndicators	Public
2	UpdatedBiodiverityMonitoringPlan	Public
3	LawsUpdate	Public
4	Climate_Annexes	
A	MonitoringPlan_ Update2018	Public
B	Data&ParametersAvailableAtValidation	Public
C	PlotList	Confidential
D	Estimations	Confidential
E	LeakagePlotSamplingProtocol	Confidential
E.1	LeakagePlotSamplingProtocol_SpanishCommunity	Confidential
F	Data&ParametersMonitored	Public
G	ForestMeasurementProtocol	Confidential
G.1	ForestMeasurementProtocol_SpanishCommunity	Confidential
H	AllometriEquations	Confidential
I	NonPermanenceRiskReport	Public
5	CCBMonitoringPlans	Public
6	CommunityReport_Indicators	Public
7	Videos&News	Public
8	DetailedWildlife&FloraMonitoringReport	Public
8.1	BiodiversityAnalisys	Confidential
9	FragmentationAnalysis2012_2016	Public
10	FragmentationAnalysis2017	Public
11	DisseminationMonitoringResults	Public