

# FINAL EVALUATION

**The Development and Production of Natural Dyes in the Chocó Region of Colombia for the Food, Cosmetics and Personal Care Industries under of the Nagoya Protocol.**



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November 2016

i. **Terminal Evaluation –TE-**

|   |
|---|
| <b>Project Name:</b> The Development and Production of Natural Dyes in the Chocó Region of Colombia for the Food, Cosmetics and Personal Care Industries Under of the Nagoya Protocol.  |
| <b>UNDP PIMS /GEF ID</b> GEF ID: PIMS 5139  |
| <b>FE timeframe and Report Date:</b> November 2016  |
| <b>Region and Countries included in the report:</b> Chocó Region, Colombia  |
| <b>Focus Area /Strategic GEF Program:</b> Biodiversity / BD 4: Build Capacity on Access to Genetic Resources and Benefit-Sharing  |
| <b>Executing Agency/Implementing Partner and Other Project Partners:</b><br>Fondo para la Acción Ambiental y la Niñez   |
| <b>FE Team Members:</b> Maria del Pilar Pardo Fajardo   |
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### iii. Acronyms and Abbreviations

|           |   |
|-----------|---|
| ABS       | Access and Benefit Sharing.   |
| AGR       | Access to Genetic Resources   |
| ANLA      | National Environmental License Authority  |
| BHB       | Bosque Húmedo Biodiverso  |
| CAN       | Andean Community of Nations   |
| CBD       | Convention on Biological Diversity  |
| COCOMACIA | Greater Community Council of the Peasant Farmers Association of the Atrato, <i>Consejo Comunitario Mayor de la Asociación Campesina Integral del Atrato</i> |
| CONPES    | Consejo Nacional de Política Económica y Social , <i>National Council for Economic and Social Policies</i>  |
| CPAP      | Country Program Action Plan   |
| FA        | Fondo Acción  |
| GEF       | Global Environmental Facility   |
| IAP       | Annual Project Report   |
| IIAP      | Instituto de Investigaciones Ambientales del Pacífico / Environmental Research Institute for the Pacific Region.  |
| IW        | Inception Workshop  |
| M&E       | Monitoring and Evaluation   |
| MADS      | Ministry of the Environment and Sustainable Development   |
| MTR       | Mid –Term Review  |
| NIM       | <i>National Implementation Modality,</i>  |
| OIT       | International Labor Organization  |
| PIR       | Project Implementation Report   |
| PRODOC    | Project Document  |
| REAS      | Regional Environmental Authorities (includes Regional Autonomous Corporations and Sustainable Development Corporation)                                      |
| SBA       | Standard Basic Assistance Agreement   |
| SENA      | National Learning Service   |
| SINA      | National Environmental System   |
| TE        | Terminal Evaluation   |
| UCR       | Regional Coordination Unit  |
| UEBT      | Union for Ethical Biotrade  |
| UNCTAD    | United Nations Conference on Trade and Development  |
| UNDP      | United Nations Development Programme  |

## 1. Executive Summary

|  |  |  |   |
|--|--|--|---|
| <b>Project Name</b>                        | The Development and Production of Natural Dyes in the Chocó Region of Colombia for the Food, Cosmetics and Personal Care Industries Under of the Nagoya Protocol.                            |  |   |
| UNDP Project ID (PIMS#):                   | 00076371   | PIF Approval Date:   | September 28, 2012  |
| GEF ID (PMIS#):                            | PIMS 5139  | CEO Endorsement Date   | October 21 de 2013  |
| ATLAS Business Unit, Award # (Project. ID) | ATLAS Project ID: 00076371   | Project Document (ProDoc) Signature Date (Date project began): | December 18, 2013   |
| Country or Countries                       | Colombia   | Date Project Manager was hired                                 | February 19, 2014   |
| Region:                                    | Latin America and the Caribbean  | Inception Workshop Date:                                       | March 21, 2014  |
| Focal Area                                 | Biodiversity/BD -4: Build Capacity on Access to Genetic Resources and Benefit-Sharing  | Final Review Completion Date: Period:                          | December 15, 2016.<br>November 23, 2016<br>January 22, 2017 |
| Executing Agency/ Implementing Partner:    | Fondo para la Acción Ambiental y la Niñez  |  |   |
| Other Execution Partners:                  | Ministry of Environment and Sustainable Development, Ecoflora Cares, Fundación Espavé, Cocomacia and Bosque Húmedo Biodiverso. The latter was liquidated and its rol was assumed by Planeta. |  |   |
| Gef Financing:                             | \$980.000 USD  | \$980.000 USD  |   |
| Operational Closing Date:                  | Proposed:  | Actual:  |   |

The main objective of this project is to implement Nagoya Protocol provisions for access and benefit-sharing through the development of natural products, benefit-sharing, and biodiversity conservation in the Chocó region of Colombia. This project builds upon a case study for producing benefits from the utilization of genetic resources, the fair and equitable sharing of these benefits, and fair income generation for local communities derived from the biological resources. Learning from this case study experience, the project builds capacity and allows the development of legal and procedural framework for the Colombian government in accessing genetic resources and negotiating benefits derived from their utilization.

The project began in February 2014 and ended on December 31, 2016. One million dollars comes from GEF financing and two million dollars come from co-financing sources. The executing agency is the Fondo para la Acción Ambiental y la Niñez (Fondo Acción).

The project was designed to intervene in local communities where non-timber forest resource-based production chain development is been carried out for more than ten years, particularly with *Genipa americana L* as source of blue dye used in the cosmetic, food, and personal care industries.

The project seeks to 1). Strengthen the development and marketing of blue dye, 2) Reinforce the capacity of Afro-Colombian and indigenous communities in the biogeographical Chocó region to manage the species, 3). Enhance and boost the harvest and supply of the fruit used for the production of the dye, 4). Propose laws for benefit-sharing in Colombia, and 5). Build the National Environmental System's (SINA) institutional capacity for implementing Nagoya Protocol provisions and access and benefit-sharing.

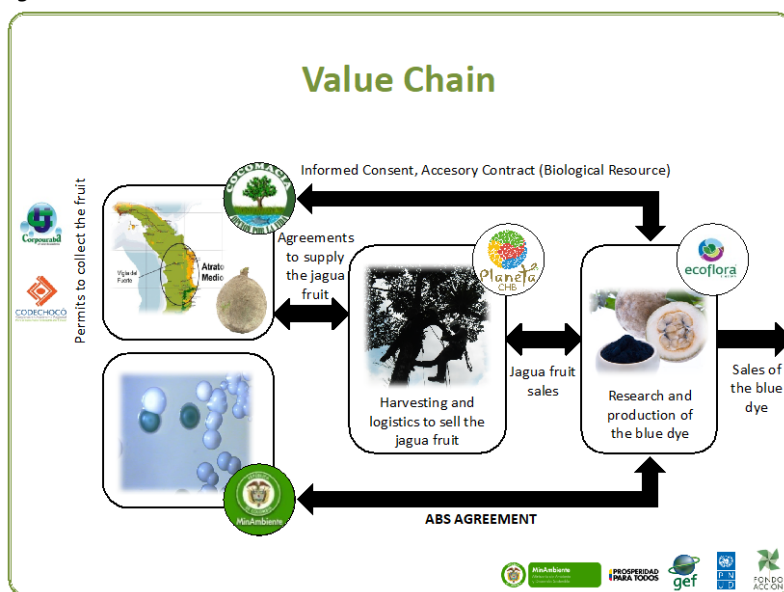
In order for Colombia's rich biodiversity to become a driver of economic development, the project's long-term value proposition is to have the necessary legal and procedural frameworks adapted to create a management model that facilitates adding value to biological diversity and utilizing it effectively. The long-term goal is to improve the living conditions of the communities involved in access to genetic resources through fair and equitable sharing of the benefits arising from the use of biodiversity, and to give continuity to the process of reinforcing the Colombian government capacity so that the success of this case and the tools developed can be replicated in other areas of the country with other resources.

The strategies defined by the project include:

- a) Strengthening of the Colombian state through the construction of laws fueled by case studies on benefit-sharing. The country has invested great effort in defining unsuccessful benefit-sharing schemes since they have been built on hypothetical cases under optimum scenarios. Designing legal instruments on the basis of real ongoing case studies means the risks and barriers faced by a project on an everyday basis can be discerned, making it possible for these tools to recognize these difficulties, and lead to an acknowledgment that there is no single formula, but that there may be different strategies and scenarios at play.
- b) A low opportunity cost, due to the fact that the project is building upon an advanced community-based process that requires little additional investment for making it sustainable in the long run. In this region, prior to the project implementation, Fundación Espave had conducted education and training activities on non-timber forest products and some of the representatives of COCOMACIA were involved. This previous experience was decisive for this project to build upon. The additional investment represented by this project seeks to consolidate this initiative in a sustainable way.
- c) Marketing of a product derived from a genetic resource that offers fair compensation all along its value chain to population sectors living in extreme poverty, encouraging the sustainable use of one of the planet's most diverse ecosystems.

A singularity of this project is that it was designed on the interdependent needs of all its members (people, communities, and public and private entities) through four outcomes, each of which has an entity responsible for meeting the targets with a clear understanding that all members are mutually interdependent. Construction of the value chain has gone from research and knowledge generation through innovation and cutting-edge technology to the attainment of a new product, blue dye, derived from the species *Genipa americana*, commonly known as *jagua*. This process was accompanied with the design of legal instruments aimed to ensure benefit-sharing, and intermediately, regional entities and local communities generating value for the biological resource. Benefit-sharing is initially associated with the *jagua* production stage. See Figure 1.

**Figure 1. Value Chain Scheme**



Source. Fondo Acción. Clara Hidrón, Project Coordinator

In the above scheme, monetary benefits are derived from jagua fruit supply agreements (between communities and marketers) plus additional payments generated by management and harvest of the fruit (agreed in prior consultation). In addition, benefits are generated between the processor (Ecoflora Cares) and the Colombian state in the genetic resource access agreement.

The following table presents project stakeholders and their roles.

**Table 1. Project Stakeholders and their Roles**

| Partner   | Project Role  |
|---|---|
| Fondo Acción Ambiental  | Project Executing Agency. Fondo Acción is a national NGO.   |
| Ministry of Environment and Sustainable Development (Forest Department and Green Businesses Office) | Highest environmental authority responsible for implementing the Nagoya Protocol and its technical teams responsible for encouraging biotrade in the country. |

|  |  |
|--|--|
| Ecoflora Cares   | Blue Dye Production and Processing Company. Company responsible for the process of research, transformation and production of blue dye from <i>G. Americana</i> . Also in charge of marketing the final product, within the frame of the ethical bio-trade and in the fair and equitable distribution of benefits.   |
| Producers (Bosque Húmedo Biodiverso – BHB*, Espavé* and Planeta) | Responsible for marketing the fruit and improving the value chain (*: BHB and Espavé were involved from the beginning of the project. Later on, their role was assumed by Planeta). Planeta was born as a community-based commercial enterprise, made up of 10 members, all belonging to Cocomacia. It was established in February 2016.   |
| Codechocó y Corpourabá*  | Regional Environmental Authorities in the Chocó Department and in the Urabá Region.  |
| Cocomacia  | Owners of the jagua fruit production land. It is the Community Council of the region where the project took place. In addition to being the legal figure that adds to the local beneficiaries (producers, harvesters, regional contractors), it is an important political actor in the negotiation and validation of benefit-sharing schemes for accessing to the genetic resource, and responsible for obtaining the permits of exploitation. |

The outcomes defined in the project document are as follows:

**Outcome 1. Development of natural plant dyes for food, cosmetic, and personal care industries.**

This component was aimed at completing the technical developments still pending for achieving industrial production of the natural blue dye extracted from *G. americana*. The small-scale technical process followed at the beginning for processing the fruit extract into dye was insufficient to negotiate successful marketing agreements. Activities identified and implemented improved the dye production process in such ways that it complied with international quality standards. It also allowed the establishment of a plant facility with industrial production capacity. This component was led by Ecoflora Cares under the coordination and supervision of the Executing Agency and the Implementing Partner.

**Outcome 2. Strengthening of a value chain that includes sustainable and efficient supply and market development for natural dyes.** This component was intended to enhance *G. americana* production and management capacity in accordance with criteria for sustainability and biodiversity conservation, and to start the process of foreign marketing of the dye derived from its fruit, in line with international regulations. The activities in this component involved strengthening throughout the value chain, and were executed by Fundación Espavé, Bosque Húmedo Biodiverso BHB, and Ecoflora Cares.

**Outcome 3. Access and benefit-sharing agreements.** This component was aimed at facilitating access and benefit-sharing in the marketing of the blue dye in alignment with the Nagoya Protocol,



identifying corrective measures for full compliance with its provisions, and legitimizing marketing of the *G. americana* dye.

**Outcome 4. Enhanced national and regional capacity in access and benefit-sharing through negotiation and monitoring of agreements.** This component was intended to provide the Colombian government and its environmental institutions and authorities with enhanced installed capacity for facilitating access to genetic resources and benefit sharing. The activities were expected to derive in regulations for the sharing of benefits arising from the utilization of genetic resources, which at present is not regulated in Colombia, and in the evaluation and reporting on project outcomes.

This Terminal Evaluation was conducted based upon documents handed out by the project coordination unit, three months before the end of the project. At the time of the review, the project had achieved 60.4% of the expected goals, as shown in table 6.

Results achieved through project implementation are analyzed under different perspectives: i) Monitoring and Evaluation ii) Implementing partner and Executing Agency Execution; iii) Results quality, relevance, effectiveness and efficiency, iv) Impact and Sustainability.

**Table 2. Ratings and Achievements**

| Criteria   | Rating | Score | Comments   |
|--|--------|-------|--|
| <b>Monitoring and Evaluation (M&amp;E):</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU)                                       |        |       |  |
| Overall Quality of M&E   | HS     | 6     | The project had an adequate follow-up and decisions were taken in a timely manner. This is evident in the minutes of the steering committee of June 2016, where the goals were adjusted according to the results and recommendations of the mid-term evaluation.       |
| M&E design at the beginning of the project   | HS     | 6     | M&E Design was adequate since the beginning of the project. The project monitoring and control chart (COL87797 product verification) was used in all project implementation years and the information is consistent with the progress reports of the quarterly reports |
| M&E plan implementation  | HS     | 6     | It met the expectations defined from the design  |
| <b>Implementing partner and Executing Agency Execution (IA&amp;EA Execution):</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU) |        |       |  |
| Overall quality of project execution   | S      | 5     | Project failed to meet all targets, even though they were adjusted after Mid-Term Review. Of the 10 goals defined in the project results, 50% were met, and the other 50% partially met.   |

|  |  |              |   |
|--|--|--------------|---|
| Implementing Agency  | HS   | 6            | In this project, UNDP had a coordination role and was actively engaged in every decision-making instance.   |
| Executing Agency   | S  | 5            | In this case Fondo Acción, as general coordinator of the project, ensured the coherence among components and carried out technical and administrative follow-up.<br>The Ministry of Environment was responsible for Outcomes 3 and 4, and achieved most of the targets.       |
| <b>Results:</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU) |  |              |   |
| Overall quality of project outcomes  | S  | 5            | Although all project goals and targets were not fully met, results obtained are satisfactory and of great importance at regional (subnational) and national level.  |
| Relevance: Relevant (R); Not Relevant (NR)   | R  | 2            | Significant results were obtained (both at the local and national level) and will Foster new interventions.   |
| Effectiveness  | S  | 5            | Relevant materials and tools on ARG were generated and important results for the project were obtained.   |
| Efficiency   | HS   | 6            | The resources allowed achieving the most important expected results. However, not all the results of the project were achieved, since some goals were interrelated: when dye sales were reduced they had an impact on volume of fruit and hectares harvested.                 |
| <b>Sustainability Ratings:</b> Likely (L), Moderately Likely (ML), Moderately Unlikely (ML), Unlikely (UL)).   |  |              |   |
| <b>Risks likely to affect the continuation of project outcomes</b>   | <b>Likelihood of sustainability of outcomes at Project termination</b> | <b>Score</b> | <b>Comments</b>   |
| Financial Risk   | L  | 4            | Investments made ensure sustainability of the project. The creation of Planeta as a community Company marketing non-timber forest product, its strengthening and current installed capacity will allow them to continue marketing jagua and to broaden their sales portfolio. |
| Sociopolitical risks   | L  | 4            | Installed capacity will allow continuity of the initiative, beyond project closure, through Planeta.  |
| Institutional framework and governance risks   | L  | 4            | The goal of designing legal and institutional instruments on Access to Genetic Resources was met, and will facilitate the evaluation of new   |

|   |           |          |  |
|---|-----------|----------|--|
|   |           |          | projects involving AGR. A group of officials and technicians were trained in the negotiating phase of AGR contracts.   |
| Environmental risks   | L         | 4        | Good environmental practices were developed, adopted and encouraged (harvesting the fruit without knocking down the tree, harvesting the fruit at the best timing for dye transformation). The project followed the regulations aimed at reducing or managing environmental impacts (permits for the use of non-timber forest products, and the jagua plantation). |
| <b>Impact:</b> Significant (S); Minimal (M); Negligible (N) |           |          |  |
| Improvement of environmental conditions                     | S         | 3        | The project showed that it is possible to generate benefits from non-timber forest products, opening possibilities for other similar interventions based on other biological resources. The project allowed to developing protocols for managing the jagua plots.  |
| Reduction of environmental stress                           | S         | 3        | The project encouraged other activities different from mining or illegal logging.  |
| Progress towards changing conditions and stress.            | S         | 3        | Trust-building processes were put in place that allowed to moving forward in value chains.   |
| <b>Overall Project Result</b>                               | <b>HS</b> | <b>6</b> | The project was pioneer and it is a pilot case in developing mechanisms for benefit distribution from biodiversity.  |

### Conclusions, Lessons Learned and Recommendations

#### Conclusions and lessons learned

- Management approach to adjust the project strategy at mid-point during project implementation and this was a good decision to maintain the partners' trust. This avoided an increase of the tension among all involved parties in the project.
- Designing a project which built on community experiences quickly allowed results to be scaled so that in the mid-term evaluation the percentage of goals achieved was high.
- Fondo Acción played an important role in the implementation of the project from the moment it took over the tasks and responsibilities initially assigned to Fundación Espavé which withdrew from the project. By doing this, Fondo Acción assured the continuity of the operational and administrative strengthening of the Community trading company Planeta (replacement of BHB), activity that was originally a responsibility of Fundación Espavé.
- Transparent action contributes to building trust among all actors in a value chain. The latter being a process that takes time but guarantees stability and sustainability in the long term.
- The new look of the forest by the communities as a possibility of long-term development allows new bets for the region.

- There are letters of commitment from buyers interested in following the purchase process once the records are ready, which would guarantee the sustainability of the productive chain strengthened by the project.
- Parallel to this project the communities have been working on the diversification of non-timber products and want to be part of these projects.

## Recommendations

- It is recommended for future projects that the goals are not dependent on each other, in order to avoid the domino effect that leads to moderate compliance when there is interdependence and one of the goals cannot be achieved. The specific case is that the goal associated with the sale of blue dye in international markets was directly linked to the sale and delivery of fruit and the number of hectares to be harvested. The lack of records for commercialization of the processed product made the other goals impossible to meet.
- Goals should not be formulated solely on the sales of a product because it generates high expectations among the stakeholders. There are other co-benefits that are not measured and that are not valued in the project and that can be recognized as non-monetary benefits.
- It is important that the issue of ABS in the Ministry of the Environment is not viewed as a way to negotiate and sign a contract; rather it should be perceived as a means to continue to generate capacity, guidelines, instruments and transparent conditions that allow genetic resources to become a real opportunity for development.
- Project Co-financing must be associated with results compliance to avoid over-dimensioning at the time of project design. Local or national investments that are co-financing the project must be realistic so that it is possible to generate additionality and sustainability in the long term.

## 2. Introduction

This document aims to evaluate the achievement of the objectives and final results of the Project “Development and production of natural dyes in the Chocó Region of Colombia, for the food, cosmetics and personal care industries under the provisions of the Nagoya Protocol; as contained in its Project document.

The project received funding from the GEF. Fondo Acción was the executing Agent and UNDP was the GEF Implementing Agency. It involved different actors such as the Ministry of Environment and Sustainable Development (Forest Management Bureau and Green Business Office), Ecoflora (blue dye producing company from jagua), Planeta (company supplier of jagua fruit to Ecoflora), COCOMACIA, among others.

The project began its execution in February 2014 and is currently in its third and last year of execution. In line with the Guide for the Final Evaluations of UNDP-supported and GEF-funded projects, a mid-term evaluation was prepared in December 2015 and Project Implementation

Reports (PIRs) for 2015 and 2016. During This evaluation many documents were reviewed, which are listed below.

The final evaluation focuses on the efficiency and effectiveness with which the project achieved the expected results, as well as on the relevance and sustainability of the returns as contributions to the medium and long term results. Finally, it presents the conclusions, lessons learned and recommendations that are expected to serve as a reference for future projects on the use of non-timber products and the distribution of benefits associated with genetic resources.

## **2.1 Scope and Methodology**

The Terminal Evaluation (TE) analyzes the achievement of project results and reflects the lessons that can improve the sustainability of project benefits. A comparison of the expectations defined in the Logical Framework and Results Framework achieved by the project is included.

The methodology used in the TE is based on the documentary review of all sources of relevant information, provided by the executing agency (Fondo Acción) and the United Nations Development Program (UNDP), listed below:

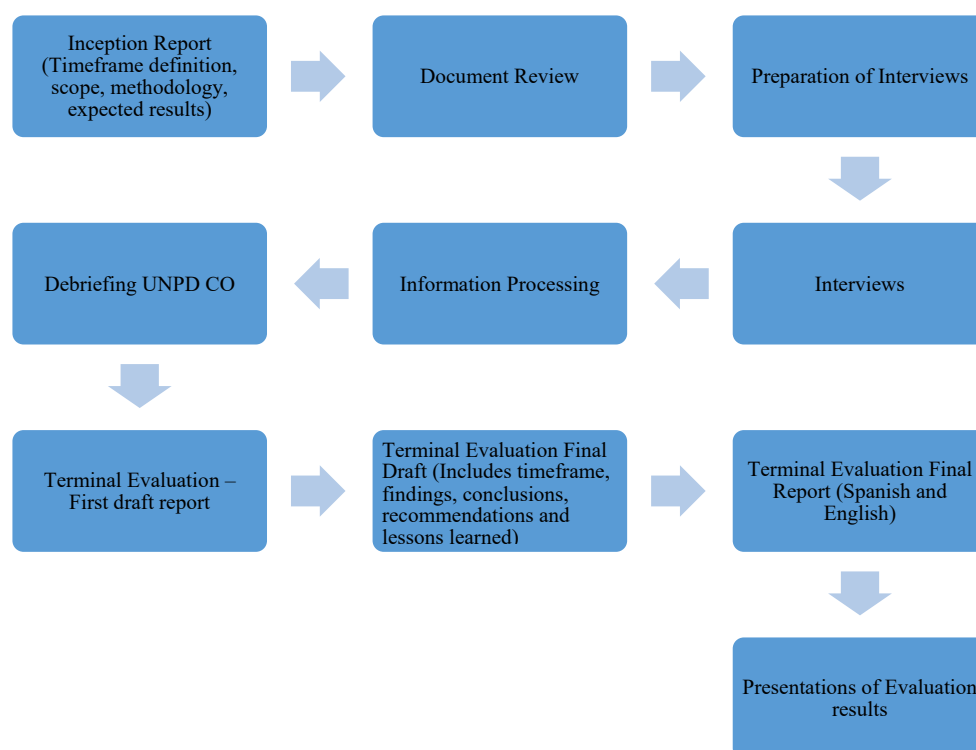
- Project Document (PRODOC)
- Presentations and minutes of the steering and technical committees
- Inception Workshop Report
- Mid-Term Review Report
- UNDP Quarterly Reports 2014-2015-2016.
- Project Implementation Reports (PIR) 2015 and 2016.
- Project Stakeholder Reports: local coordinator (2014 and 2015 BHB, 2016 Planeta) technical and planning reports. 2014 to 2016 technical reports (Ecoflora).
- Reports of consultancies hired by the project (Vegetative Propagation, School of Forestry, legal proposal, among others)
- United Nations Development Assistance Framework (UNDAF) 2015-2019
- CPD – Country Programme Document
- UNDP Strategic Plan
- Terms of Reference and Scope for hiring experts in legal framework on access to genetic resources.
- Assessment of compliance with prior consultations agreements
- Ministry of Environment and Sustainable Development ABS capacity evaluation
- Progress Report on proposed legal framework on ABS
- Contracts on access to genetic resources between Ecoflora and MADs
- Accessory contract between Ecoflora and Cocomacia
- Minutes of the prior consultation conducted by Ecoflora
- Case Study Draft
- GEF Tracking tools
- Stakeholder Analysis

- Communication pieces
- Draft Resolution “that regulates the fair and equitable distribution of monetary and non-monetary benefits derived from the use of genetic resources and their derived products”.
- Report justifying the Draft Resolution, "that regulates the fair and equitable distribution of monetary and non-monetary benefits derived from the use of genetic resources and their derived products"

The approach used in the MTR was to process the secondary information delivered by the project executing and implementing entities and later verify it through questionnaires and interviews of the project’s key stakeholders. A field visit was conducted to gather with the Chocó Regional Environmental Authority CODECHOCO.

The following chart shows the methodology used in the evaluation of the project:

**Figure 2. Terminal Evaluation Methodology**



Key project stakeholders were interviewed in order to gather their insights about the effectiveness of the project, their engagement, results achieved and lessons learned. Questions were also asked about the efficacy and efficiency of the project in achieving its results.

The following table (Table 3)), summarizes the interviews conducted:

**Table 3. Interviews conducted for the Terminal Evaluation**

| Institution   | Project Role   | Name and position   | Reasons for interviewing  | Interview Date                               |
|---|--|---|---|--|
| Fondo Acción  | Direct executor of NPIF resources, Project Coordinator. Responsible for the review and study of the provisions of the Nagoya Protocol and the monitoring and socialization of the project. Responsible for overseeing compliance of benefit-sharing agreements | Natalia Arango (Technical Deputy Director)<br>Clara Hidrón (Project Coordinator)  | It is the team of the Project Coordination Unit, responsible for ensuring the good execution of the project, the coherence between the different components of the Project. It also assumed the training topics by the Foundation Espavé after its retirement.  | Nov. 22,2016                                 |
| Ministry of Environment and Sustainable Development | Highest environmental authority in the country, main actor in the development of the regulations and capacity building for the implementation of the provisions of the Nagoya Protocol   | Paula Rojas (Staff. Bureau of Forests and Biodiversity)<br>Tito Gerardo Calvo (Director Bureau of Forests and Biodiversity)<br>Mauricio Mira (Chief Office of Green Businesses), Ana Karina (Staff. Office of Green Businesses) | Responsible for the project within the Ministry of Environment and Sustainable Development:<br>Bureau of Forests is competent in ABS matters, ratification of the Nagoya Protocol, technical training on access and regulation in benefit-sharing<br>Office of Green Business guides ventures associated with the use of biodiversity (non-timber) and regulation in benefits distribution. | Nov. 15,2016<br><br>Nov. 24, 2016            |
| Regional Environmental Authority Codechocó-         | Maximum Environmental Authority in the Department of Chocó. Entity competent to grant the permit to use non-renewable natural resources  | Teófilo Cuesta (Director General)   | Competent authority to grant permission for the use of non-timber products. It establishes and collects the fees of the permits of mobilization in the department of Chocó.<br>The motivation of the interview is to encourage the review of the mobilization permit costs to stimulate the marketing of jagua fruit.   | Nov. 16,2016                                 |
| Ecoflora Cares                                      | Entity in charge of the process of investigation, transformation and production of the commercial dye from G. Americana, as well as the commercialization of the final product, within the framework of the fair and equitable distribution of benefits        | Juan Fernando Botero (Director)   | Identify compliance with project goals for outcomes 1 and 2   | Nov. 23,2016                                 |
| Planeta   | Entity in charge of the commercialization of the fruit, and coordinator of local actors related to the production of the product.  | Nemecio Palacios (Local Coordinator)  | Identify the level of participation of producers. Get a grasp of trust in the process. Understand results achieved in the mechanism of benefits distribution.   | Nov. 15,2016                                 |
| Cocomacia   | Community Council (legal entity) calls on local beneficiaries  | Tomasa Cordoba (Member)   | Representatives of the Community Council actively involved with the project, have permission to use the fruit in their name and are the holders of the fruit harvest areas.<br>It is expected to identify the commitment to the project and the benefits that were generated  | Nov. 22, 2016<br><br>Could not be conducted. |

## 2.2 Terminal Evaluation Report Structure

The Terminal Evaluation Report has been structured according to UNDP guidelines and covers the topics in the Terms of Reference for this review.

Chapter 1. Executive Summary

Chapter 2. Methodology and Structure.

Chapter 3. Description of the project development context, including project stakeholders and their roles and results achieved.

Chapter 4. Evaluation Findings, relating the document review and information gathered during the interviews.

Chapter 5. Project Results Evaluation

Chapter 6. Conclusions, Recommendations and Lessons Learned

Chapter 7. Annexes:

Annex 1. Terms of Reference of the Evaluation

Annex 2. Interviews

Annex 2. Terminal Evaluation Matrix

Annex 3. Field Mission Report

Annex 4. List of Persons Interviewed

Annex 5. List of Documents Reviewed and Corroborated during the Review

## 3. Description of the project and development context

This project builds upon the potential use of the jagua tree (*Genipa americana*) – abundant in all lowland Neotropical lowland forests, including the preserved and mega-diverse biogeographical Chocó – to apply the provisions of the Nagoya Protocol. This tree genus contains genipin, a protein present in various plants and has a number of industrial, medical, and traditional uses. The plant is used in Central and South America as a repellent, body paint and medicine, and in food and beverages. The project seeks to market a jagua-based dye, thereby benefitting the government and local communities. It also seeks to consolidate the *G. americana* blue dye marketing case to achieve monetary and non-monetary benefits for the government and the communities. These benefits are shared in accordance with the provisions of Colombian access and benefit-sharing law and the Nagoya Protocol. An additional project goal is to use the case study to develop regulations for benefit-sharing.

Colombia's biological wealth poses special potential for the development of biotechnology and the marketing of biological and genetic resources and their derivatives. Because of this great wealth, and to the same degree, the country has the responsibility to ensure access to these resources and the benefits arising from their utilization.

The Colombian regulatory framework on access to and sharing of the benefits arising from the use of genetic resources (ABS) is structured on the basis of its 1991 Constitution, the 1992 Convention on Biological Diversity, and Decision 391 of 1996 of the Andean Community of Nations (CAN). The



authority for all effects derived from these norms is the Ministry of the Environment and Sustainable Development (MADS), which is responsible for negotiating and signing genetic resource access agreements. However, the paperwork for flora and fauna management, use, and transportation – needed for developing and producing derivatives – involves regional environmental authorities (REAs) or the National Environmental License Authority (ANLA). In practice, then, a substantial portion of the national environmental system (SINA) is involved in enforcing the regulatory framework, the effectiveness of which is laden with institutional burdens at the national and regional environmental levels. Moreover, if traditional knowledge exists, or the value chain involves traditional communities, there will be additional paperwork that has to be completed at the Ministry of the Interior and the Attorney General's Office before any ABS undertaking.

In processing the study permit for scientific research (PEFIC) in biological diversity and the agreement for access to genetic resources (AGR) for research and commercial purposes, formal prior consultation with the community was initiated by Ecoflora in September 2012 for the production of natural dyes under the Nagoya Protocol with two clearly defined ends:

- 1) use of dyes extracted from *Genipa americana*, and
- 2) marketing of the *Genipa americana* pulp for obtaining a dye.

All project activities are in line with the National Policy for the Integral Management of Biodiversity and its Ecosystem Services - PGIBSE (MADS, 2012), whose purpose is to ensure the conservation of biodiversity and its ecosystem services and the fair and equitable distribution of the benefits derived from it, to contribute to the improvement of the quality of life of the Colombian population. In particular, it contributes to the Axis I. Biodiversity, Conservation and Care of Nature and its strategic line:

- 6) Strengthen activities and institutions related to the conservation of biological and genetic resources, their derivatives and associated traditional knowledge, as well as their greater knowledge, for the improvement of the quality of life through the fair and equitable distribution of Benefits derived from these resources.

The project expects to contribute to the Policy for Commercial Development of Biotechnology based on the Sustainable Use of Biodiversity, the goal of which is to create the economic, technical, institutional and legal conditions for attracting public and private funding for the development of enterprises and commercial products based on the sustainable use of biodiversity – specifically, biological and genetic resources and their derivatives.

In particular, it contributes to its strategic objectives 1 and 4:

- 1) Strengthen institutional capacity for the coordination and implementation of activities related to the commercial development of biotechnology based on the sustainable use of biodiversity, specifically biological, genetic resources and their derivatives.

4) To adapt and revise the regulatory framework related to access to genetic resources and their derivatives.

This project had a three-year duration and was implemented under the national implementation modality (NIM); it is an integral part of the 2008-2014 UNDP Country Program Action Plan (CPAP) signed by the Colombian government and UNDP in 2008. Signing of the UNDP CPAP constitutes legal backing by the Colombian government.

Since the project is cross-cutting and involves diverse stakeholders, its structure is flexible to allow for adaptation to potential changes during its implementation.

The project expected to produce overarching environmental benefits through the sustainable use of a species in one of the world's most diverse ecosystems – an ecosystem that today faces the pressures of logging and mining. Successful implementation of the project was aimed at proving the possibility of generating value chains based on sustainable use of non-timber forest products that can improve the living conditions of local communities. The project also aimed at generating certainty regarding the economic opportunities represented by the use of biological and genetic resources as an economic alternative for mega-diverse countries.

Meeting these objectives was achieved through the products defined in each of the four components, as follows:

1. Outcome 1. Development of natural plant dyes for the food, cosmetic, and personal care industries:
  - Production protocol to ensure the blue dye's stability and compliance with industry standards.
  - Tests to guarantee the blue dye's safety, stability, and effectiveness for industrial uses.
  - Infrastructure and equipment for dye production scale-up with quality control measures, in operation.
  - Laboratory and analysis capacity to ensure the blue dye's quality.
2. Outcome 2. Strengthening of a value chain that includes sustainable and efficient supply and market development for natural dyes:
  - 275 beneficiaries trained by the School of Silviculture.
  - Requests for updating and extending the community management plan and exploitation permit.
  - 500 new high-producing trees, reproduced and established by vegetative system.
  - Collection, logistics, quality, and tracking system implemented for supply of the fruit in the conditions required by the market.
  - International permits for supplying and marketing a blue dye derived from *G. americana* (such as the U.S. Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA)).

- Commercial agreements with international buyers of natural blue dye derived from *G. americana*.

### 3. Outcome 3. Access and benefit-sharing agreements:

- Review and comparative analysis on the application of Nagoya Protocol provisions to the case of use of *G. americana* for the production of blue dye
- Access agreement signed between MADS and Ecoflora Cares, and dissemination of payment and benefit-sharing agreements.

A system for tracking benefit-sharing and distribution to communities created and in use

### 4. Outcome 4. Enhanced national and regional capacity in access and benefit-sharing through negotiation and monitoring of agreements:

- Draft decree or resolution for monetary benefit-sharing among users and providers of genetic resources.
- Dissemination and validation of the draft regulations on benefit-sharing.
- Online tool for training and certification on ABS issues
- One hundred public employees from SINA trained on ABS issues

## 3.1 Main Stakeholders

**Table 4 Project Stakeholders and roles**

| Partner   | Project Role  |
|---|---|
| Fondo Acción Ambiental  | Project Executing Agency. Fondo Acción is a national NGO.   |
| Ministry of Environment and Sustainable Development (Forest Department and Green Businesses Office) | Highest environmental authority responsible for implementing the Nagoya Protocol and its technical teams responsible for encouraging biotrade in the country.   |
| Ecoflora Cares  | Blue Dye Production and Processing Company. Company responsible for the process of research, transformation and production of the blue dye from <i>G. Americana</i> .<br>Also in charge of marketing the final product, within the frame of the ethical bio-trade and in the fair and equitable distribution of benefits.   |
| Producers (Bosque Húmedo Biodiverso – BHB*, Espavé* and Planeta)                                    | Responsible for marketing the fruit and improving the value chain (*: BHB and Espavé were involved from the beginning of the project. Later on, their role was assumed by Planeta). Planeta was born as a commercial enterprise of community origin, made up of 10 members, all belonging to Cocomacia. It was established in February 2016.  |
| Codechocó y Corpourabá*   | Regional Environmental Authorities in the Chocó Department and in the Urabá Region.   |
| Cocomacia   | Owners of the jagua fruit production land. It is the Community Council of the region where the project took place. In addition to being the legal figure that adds to the local beneficiaries (producers, harvesters, regional contractors), it is an important political actor in the negotiation and validation of benefit-sharing schemes for accessing the genetic resource, and responsible for obtaining the permits of exploitation. |

Fundación Espavé started to work in the region with the intention of generating productive alternatives for the communities in the area, using biodiversity and guaranteeing its conservation. Within the alternatives for generation of income, the opportunity arises to work with the company Ecoflora Cares in the use of the fruit of the jagua tree. The interest of Ecoflora Cares to work with the species began in 2004, after having found information on dyes derived from jagua.

The process began in the same year (2006), with informal socializations about the possibility of the fruit harvest and investigations related to its transformation of the product. A formal relationship was established with COCOMACIA, legal adjudicatory organization of the collective title that governs the territories of influence of the project in the region, and groups the local community councils where there is a significant amount of jagua trees

In addition to the participation of the communities as suppliers of the jagua fruit, as an initiative of the Espavé Foundation and with the participation of leaders of the region, a mixed company, Bosque Húmedo Biodiverso - BHB - was formed in 2010, with a shareholder structure designed to include COCOMACIA, forest product collectors, local investors and Fundación Espavé. BHB commercialized the products of the local communities and provided Ecoflora Cares with jagua for its research and development. Thus, BHB constituted, both in its place within the value chain and in its share composition, an intermediate link between final buyer and local community, and an outstanding case of fair distribution of the compensations generated by the supplier. However, in 2015 BHB enters into liquidation process by its members and another entity called Planeta of private nature formed by 10 members of the community assumes in the last year of the project the functions and role formerly fulfilled by BHB.

Likewise, Fundación Espavé withdrew from the project and the functions of this entity, associated with the strengthening of capacities in the project were assumed by Fondo Acción.

### **3.2 Expected Results**

#### **Results framework**

Table 5 contains an analysis of the progress of the project is made starting from the baseline and identifying the final goal. Likewise, the indicators are taken into account, compared to the results achieved in the third quarter of 2016, according to the information provided for the TE. The last column presents the progress and observations of this evaluation.

The goals of the project are simple and many of them numerical, which facilitates their measurement and monitoring. Therefore, the indicators follow this same condition, which facilitates their follow-up.

Target associated to the "number of hectares of forest of the biogeographic Chocó under sustainable management due to the proper use of *Genipa americana* for the production of the colorant" was adjusted given the delay in the expedition of the exploitation permit by Codechocó. The goal and the indicator are considered well defined. The adjustment was due to circumstances not foreseen by the project and difficult to predict.

Adjusting the target was strategic: in the design of the project it was anticipated to reach the target of hectares in 3 years. Nevertheless, two years after the Project started it had not been possible to have the permission for harvesting jagua in the amount of hectares initially defined.

The indicator associated with the "volume of fruit received by Ecoflora Cares" was adjusted by the Steering Committee in July 2015. In that meeting the volume defined in the baseline was included and taken into account in the final goal of the project. The change is that the indicator is no longer expressed in an average of ton /month, but reflects the cumulative fruit purchased during the project implementation. The adjustment to this indicator allowed the coordination of the project a more simple and timely follow-up of the goal.

### Results Progress Analysis.

This project built on a previous community experience of innovation and technology, where the participating actors share a story of experiences associated with the sustainable use and use of non-timber natural resources. The project was able to adapt and move forward despite the withdrawal of two of its participants, building upon the community strength and key stakeholders that lie beneath. This is what this project can show as a great lesson: to continue with the commitments and the adaptive management of the project, recognizing and adjusting the initial design of the project so that it can execute and obtain the results. Had these elements not been available, the project would have had to be canceled.

At mid-point during project implementation, the Espavé Foundation, an NGO in charge of generating productive alternatives for the communities of the Atrato region since 1994, withdrew from the project. The void left by Espavé was filled by a joint venture called Bosque Húmedo Biodiverso (BHB) in which representatives of Cocomacia, forest products collectors, local investors and Fundación Espavé participate. BHB's role in the project was to market the products of local communities and to provide Ecoflora Cares with the jagua fruit needed to continue its research and development process. Due to internal decisions that do not have to do with the project, it is decided to liquidate BHB and create a new private company called Planeta, made up of local investors, who assumed the project responsibilities and commitments of BHB. . Of course this situation has caused delays in some of the project's products, but the goals are in the process of being met.

Fondo Acción, the project coordinator, played a very important role by strengthening the operational and administrative capacity of Planeta. . Fondo Acción also assumed the responsibilities of r Fundación Espave which left the project. .

The current installed capacity of Ecoflora Cares would not have been possible without this project: it allowed the company to scale up in technology and to be able to carry out the scientific tests for the commercialization and sale of the blue dye. The company, however, was not able to market the dye in the United States market due to unexpected costs of scientific tests required by the US Food and Drug administration. .

Institutional strengthening, especially of the Ministry of the Environment is evident. Examples of such strengthening are: the development of a legal instrument associated with the distribution of monetary and non-monetary benefits derived from access to genetic resources and their derived products; the manual on AGR and distribution of benefits; and the virtual training modules (e-learning) that will allow reaching many officials and entities of the National Environmental System.

With regards to the ratification of the Nagoya Protocol, efforts continue to be made by the MADS to the Foreign Ministry to ensure that the necessary legislative process for its ratification is completed.

**Table 5: Indicators comparative matrix**

| Goal/ Outcome   | Performance Indicator   | Baseline (2014)   | 2016 end of project target  | Progress by 2016 q3  | Terminal evaluation comments   |
|---|---|---|---|--|--|
| <b>Project Objective</b><br>Implement Nagoya Protocol provisions for access and benefit-sharing through the development of natural products, fair sharing, and biodiversity conservation in the Chocó region of Colombia. | Number of hectares of forest in the biogeographical Chocó that are under sustainable management due to proper exploitation of <i>Genipa americana</i> for dye production. | 400 hectares  | Initial target; 750 hectares<br>Adjusted target; 500 hectares   | 430 hectares   | Jagua is harvested in the area where Cocomacia, owner of the biological resource, has an extended environmental permit granted by Corpourabá. Only in 2016, Codechocó granted the harvesting permit that was initially requested two years before. Because of this delay, final target for number of hectares under sustainable management due to proper exploitation of <i>Genipa americana</i> was adjusted to 500; by the project steering committee  |
|   | Monetary and non-monetary benefits / payments received by the government and local communities and proceeding from marketing of the dye                                   | Monetary: a) Government \$0COP; b) communities: \$0 COP<br>Non-monetary: a) Government: There are no non-monetary benefits; b) Communities: 26.47% Agreements compliance. | Monetary: a) Government: to be determined in the first semester of project implementation; b) communities: \$13.20.000 COP/month<br>Non-monetary: a) Government: to be determined in the first semester of project implementation; b) communities: 100% agreements compliance | Monetary: a) Government: \$0COP; b) communities:<br>Monthly average \$4.699.000COP/month<br>Quarterly average 0<br>Last harvest \$15.112.850COP<br>Non-monetary: a) Government: none yet<br>b) communities: 29% agreements compliance and additional 59% | The agreement for access to genetic resources for commercial purposes was signed by the Ministry of the Environment and Ecoflora in December 2014. It includes the monetary and non-monetary benefits that Ecoflora must share with the government. In addition, an agreement was signed between Ecoflora and Cocomacia (on behalf of the community) in March 2013 that gives Ecoflora access to the biological resource owned by Cocomacia in the framework of prior consultation. The signed benefits are:<br><u>Monetary:</u><br>a) Government: COP 0 (in compliance with the negotiation between Ecoflora and the Colombian Ministry of the Environment, the government is |

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|  |  |  |  | <p>agreements partialy compliant.</p> | <p>granting a 4-year grace period to Ecoflora for paying a royalty, so Ecoflora will begin to pay monetary benefits in 2018).</p> <p>b) Communities: The last harvest data is 17,611,742 tons of Jagua fruit in December 2015. The monetary benefits received by the communities include the money that producers receive from the sale of jagua and the money paid for collecting the fruit (daily wages paid for fruit harvesting, leasing of equipment, and payments for associated services).</p> <p>The factors affecting this outcome include:</p> <p>a) Jagua supply and demand has not grown as expected due to the delay in obtaining the necessary permits, which have not yet been granted (permits to collect the fruit and permits to sell the dye);</p> <p>b) Tensions between the local marketing platform and the company producing the dye led to a temporary suspension of jagua supply;</p> <p>c) The local marketing platform is not working, so it is still not generating benefits that can be shared with the producers.</p> <p>Non-monetary:</p> |
|--|--|--|--|---------------------------------------|--|



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|  |  |  |  |  | <p>a) Government: None yet (the negotiation between Ecoflora and the Colombian Ministry of the Environment concluded in December 2014; Ecoflora will carry out the activities in the second semester of 2015).</p> <p>b) Communities: In June 2015, the parties had implemented 38% of the agreements ( from a total of 34 agreements negotiated during the consultation with the community that gave rise to an additional agreement between Ecoflora and Cocomacia).</p> <p>The agreements are classified into six categories:</p> <p>1. Education and social programs; 2. Relations with producers and agreements with the sources; 3. Management of the trees and harvest conditions; 4. Supply agreement between Ecoflora and the local marketing platform; 5. Administrative and logistical aspects to strengthen the supply chain; and 6. Communication and dissemination of the project's progress.</p> <p>It has been agreed to a sale price between Ecoflora and Planeta, although during 2016 no purchases have been made. One of the critical points about the definition of the price is associated with the cost of transportation as Codechocó is charging a very high fee for</p> |
|--|--|--|--|--|---|

|   |   |                            |  |            |   |
|---|---|----------------------------|--|------------|---|
|   |   |                            |  |            | the mobilization permit. However, Codechoco is currently reviewing of the fee of the transport permit.  |
| <b>Outcome 1</b><br>Development of natural plant dyes for the food, cosmetic, and personal care industries                                | Powdered dye production capacity  | 0.7 tons/year              | 3 ton/year   | 3 ton/year | Ecoflora has installed additional equipment in the plant facility, increased its production capacity, and optimized its efficiency  |
|   | Plant facility with industrial capacity for blue dye production                                     | 0                          | 1  | 100%       | The plant has been improved with industrial and laboratory equipment that allowed increasing the production capacity. The facility is running flawlessly.   |
| <b>Outcome 2</b><br>Strengthening of a value chain that includes sustainable and efficient supply and market development for natural dyes | Volume of fruit received by Ecoflora that meets environmental sustainability and quality conditions | 9 tons, Jagua total volume | Initial target: 83 ton total jagua volume. Adjusted target:: 74 ton. | 25,95 Tons | <p>The total amount of jagua fruit received by Ecoflora since the beginning of the project, including baseline: 34.9 tons (6.52 tons purchased in 2016).</p> <p>In March 2016, the first harvest of the year was collected. This is the first harvest marketed under the new supply scheme operated by Planeta. This harvest has been supported by the project, given that there is still a gap between the prices negotiated between Ecoflora and Planeta</p> <p>Of the 6,400 kg planned for this quarter, 3,365 kg were harvested in March, which met the Ecoflora quality criteria, with a deficit of 3,035 kg. This deficit is explained by the amount of jagua fruit not harvested because</p> |

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|  |   |           |  |                           | <p>Ecoflora and Planeta failed to reach a commercial agreement on the price of the fruit.</p> <p>In the second quarter, only one harvest took place, at the beginning of April (3,121kg). Following this, Ecoflora told Planeta that it was in a critical financial situation and could not continue placing orders, due to limited liquidity to cover the operation.</p> <p>Ecoflora's poor financial situation is explained by its inability to sell the dye in the USA and Europe. Ecoflora's access to these markets depend on completing scientific tests required by the US Food and Drug Administration (FDA).</p> <p>During the last quarter of 2016 no purchases were made because of the financial difficulties that prevented Ecoflora from placing new orders.</p> <p>During the Terminal Evaluation, in the meeting with the Director of Codechoco the issue of the high fee applied to the transportation permit was discussed and arguments were presented to motivate a fee review.</p> |
|  | Total annual income of producers from jagua fruit sold for natural dye production | 5.000 USD | Initial target 83.800<br>Adjusted target 23.945 USD (currency exchange rate used 1US \$ = 1.800 COP) | 3.272 USD (COP 5.890.050) | The price of the fruit agreed with the producers was maintained; However, the volumes of fruit purchased are lower than expected. As explained above, the expected purchases (or expected volumes) were not made due to the delay in the permits to collect the fruit   |

|  |    |                       |   |   |
|--|----|-----------------------|---|---|
|  |    |                       |   | <p>and permits to sell the dye internationally.</p> <p>The liquidation of BHB and the creation of the new marketer called Planeta were also a source of delay in the fulfillment of the goals of the first years of the project</p> <p>The accumulated income of producers for these sales in 2016 is COP 5,890,050 (26 families benefited in 2016), approximately USD 3,272, using the project exchange rate.</p> <p>During the harvest of the first quarter of 2016, producers received COP 3,081,150 (16 families benefited), which corresponds to approximately 1,712 USD and during the second quarter received COP 2,808,900 (10 families benefited), which corresponds to approximately 1,560 USD.</p> |
| Number of producers benefitting from the sale of jagua fruit | 31 | 200                   | 79 throughout the project + (31 LB-5 repeated producers = 26 producersLB) = 105 total producers | A total of 79 families have benefitted from the sale of jagua fruit. Including the baseline, the project purchased fruit harvested by 105 families , all Afro-Colombian. According to information provided by BHB, these families have an average of 5 members, of which 53% are women. This means approximately 525 beneficiaries.   |
| Volume of blue dye marketed under international regulations  | 0  | 3 tons at project end | 0.042 tons  | Hiring the additional test required by the FDA are still pending as Ecoflora does not have the funds needed to pay for them.  |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
|  |   |   |   |   | The main international market for Ecoflora is in the USA and Europe, but they do not yet have the FDA and EFSA permits to sell the dye in these markets.  |
| <b>Outcome 3</b><br>Access and benefit-sharing agreements. | Signed agreement providing access to genetic resources for commercial purposes and including a benefit-sharing scheme, in place and operating | 0 | 1 | 1 | The contract for access to genetic resources for commercial purposes was signed by MADS and Ecoflora in December 2014. In it, the parties negotiated monetary and non-monetary benefits to the State. As a non-monetary benefit to the State, it is envisaged that during the first 5 years of the contract, Ecoflora should socialize annually with Corpourabá, Codechocó and IIAP the good practices implemented in environmental, social and sustainability issues of both the company and the species. It is also envisaged that institutional strengthening activities should be undertaken for communities and associations providing biological resources. The monetary benefits negotiated with the State are: as of the fourth year since the signing of the contract and during the following years, Ecoflora must submit to the MADS a royalty of 3.25% of the net annual profits for each line of product obtained or developed from access to the product derived from the genetic resource in question. |
|  | Public presentation of the progress in benefit-   | 0 | 1 | 1 | The annual meeting with the communities was held in February 2015 to present the progress of the  |

|  |   |       |       |       |  |
|--|---|-------|-------|-------|--|
|  | sharing and distribution indicators   |       |       |       | agreements. According to the progress evaluation of the agreements, 59% are met and 35% are partially compliant.   |
| <b>Outcome 4</b><br>Enhanced national and regional capacity in access and benefit-sharing through negotiation and monitoring of agreements | Draft decree or resolution for monetary benefit-sharing among users and providers of genetic resources                                    | 0     | 0     | 100%  | The final version of the draft decree proposal I and the accompanying reports were approved. The contract with the consultants was finalized. The MADS approved the products. The Departments of Forests and Green Business are currently reviewing them. .  |
|  | Capacity of MADS in access to genetic resources and monetary benefit-sharing, in accordance with the UNDP ABS Capacity-Building scorecard | 31/75 | 39/75 | 39/75 | <p>The capacity of the MADS on access to genetic resources and benefit-sharing distribution of benefits was assessed reaching a score of 39/75.</p> <p>The MADS manual on ABS was printed and distributed amongst participants at the Fair Bionovo and other venues. .</p> <p>Two workshops were held with public officials to train them on AGR; The first was held in July in Medellín, the second was held in August in Bogotá.</p> <p>The preparation of an e-learning course was started to train public officials on ARGs.</p> |

The following table (**Table 6**) shows the progress matrix for achievement of results, in according to the methodology established in the Guide for the mid-term review of projects approved by UNDP and funded by the GEF. The last column presents the results of this evaluation.

**Table 6. Outcomes Achievement Rating Matrix**

| Project Strategy   | Performance Indicator  | 2014 Reference Level –Base Line | 2015 PIR progress (self reported) | 2016 Q3 Target) | 2016 End of project target (adjusted) | 2016 End of project status | Rating                  | Terminal Evaluation Comments  |
|--|--|---------------------------------|-----------------------------------|-----------------|---------------------------------------|----------------------------|-------------------------|---|
| <b>Objective:</b><br>Implement Nagoya Protocol provisions for access and benefit-sharing through the development of natural products, fair sharing, and biodiversity conservation in the Chocó region of Colombia. | Number of hectares of forest in the biogeographical Chocó that are under sustainable management due to proper exploitation of <i>Genipa americana</i> for dye production | 400 has                         | 500 has                           | 430has          | 500 has                               | 86%                        | Moderately Satisfactory | Target for number of hectares was adjusted to 500. Harvesting permit was granted in early 2016 by the regional environmental authority (Codechocó). |

|  |   |  |  |   |  |     |                       |  |
|--|---|--|--|---|--|-----|-----------------------|--|
|  | Monetary and non-monetary benefits / payments received by the government and local communities and proceeding from marketing of the dye | <p>Monetary: a) Government \$0COP; b) communities: \$0 COP</p> <p>Non-monetary: a) Government: There are no non-monetary benefits; b) Communities: 26.47% Agreements compliance.</p> |  | <p>Monetary a) Government: \$0 COP; b) Communities Last harvest: \$15.112.850COP Monthly average: \$4.699.000 COP/month</p> <p>-Non-Monetary a). Government: Ecoflora shared its good practices with regional environmental authorities Corpourabá, Codechocó and the Instituto de Investigaciones del Pacífico (IIAP) through a formal communication by mid december 2015.</p> | <p>Monetary: a) Government: to be determined in the first semester of project implementation; b) communities: \$13.20.000 COP/month</p> <p>Non-monetary: a) Government: to be determined in the first semester of project implementation; b) communities: 100% agreements compliance</p> | 36% | Highly Unsatisfactory | <p>The negotiation between Ecoflora and Planeta has been exhausting, reaching an agreement on the sale price of the fruit has taken additional time. To date they have been able to agree on a temporary price on a volume of 5 tons. One of the critical points on the definition of the price is associated with the cost of transportation, since the permit of product mobilization does not correspond to the market conditions and the value charged by Codechocó is currently very high. Thus, it is necessary to adjust this price with the help of MADS .</p> <p>Likewise, the absence of permits (FDA, EFSA, among others) has not encouraged that new purchases are made by Ecoflora, since currently they have a large inventory in stock.</p> |
|--|---|--|--|---|--|-----|-----------------------|--|



|  |  |                               |   |   |                                     |      |                          |   |
|--|--|-------------------------------|---|---|-------------------------------------|------|--------------------------|---|
|  |  |                               |   | b)<br>communities:<br>29% of<br>agreements<br>are partially<br>compliant. |                                     |      |                          |   |
| <b>Outcome 1:</b><br>Development of<br>natural plant dyes<br>for the food,<br>cosmetic, and<br>personal care<br>industries                                       | <b>Indicator 1:</b> Powdered<br>dye production capacity  | 0.7 tons/year                 | 1,5 tons  | 3 tons/year   | 3<br>tons/year                      | 100% | Highly<br>Satisfactory   | Reports of plant<br>performance and use<br>confirm that according to<br>the results obtained in the<br>March and April harvests,<br>the dye capacity is already<br>at 3ton / year.  |
|  | <b>Indicator 2:</b> Plant facility<br>with industrial capacity<br>for blue dye production  | 0                             | 67% of plan<br>improvements<br>achieved.  | 100% of plant<br>facility<br>improvement<br>s achieved                    | 100%                                | 100% | Highly<br>Satisfactory   | This target was achieved<br>by december 2015  |
| <b>Outcome 2:</b><br>Strengthening of a<br>value chain that<br>includes<br>sustainable and<br>efficient supply<br>and market<br>development for<br>natural dyes. | <b>Indicator 3:</b> Volume of<br>fruit received by Ecoflora<br>that meets<br>environmental<br>sustainability and quality<br>conditions | 9 tons, Jagua<br>total volume | 7 tons of fruit<br>have been<br>purchased<br>during 13<br>months (No<br>purchases were<br>made nor in<br>December | 25.95ton  | 83 ton,<br>Jagua<br>total<br>volume | 32%  | Highly<br>Unsatisfactory | The exhaustion due to the<br>commercial agreement<br>between Ecoflora and<br>Planeta and the difficult<br>financial situation of<br>Ecoflora did not allow it to<br>continue placing orders,<br>due to the lack of liquidity<br>to cover the operation. |

|  |   |           |   |   |            |     |                         |   |
|--|---|-----------|---|---|------------|-----|-------------------------|---|
|  |   |           | neither in January)   |   |            |     |                         | At this moment Ecoflora has ready-to-sell inventory and there are letters of intent from buyers, however until the permits are not available it is not possible to sell. And the permits are not granted because they are doing additional tests (not contemplated) by the FDA. |
|  | <b>Indicator 4:</b> Total annual income of producers from jagua fruit sold for natural dye production | 5,000 USD | 3227 USD, Exchange rate used while designing the project was 1US \$ = 1.800 COP   | 3.272 USD (COP 5.890.050)   | 23,945 USD | 14% | Highly Unsatisfactory   | The insufficient crops of 2016 due to financial difficulties of Ecoflora, led to the producers receiving very little income from fruit sales. There is little progress in this indicator.   |
|  | <b>Indicator 5:</b> Number of producers benefitting from the sale of jagua fruit                      | 31        | 55 families (31 families of producers included in the baseline and 24 new families who were bought jagua during the period from August 2014 to June 2015) | 79 throughout the project + (31 LB-5 repeated producers = 26 producersLB) = 105 total producers | 200        | 52% | Moderately Satisfactory | Purchases were made to 79 families throughout the project, 105 in total including those from the Base Line.   |

|  |  |   |                 |           |        |      |                       |   |
|--|--|---|-----------------|-----------|--------|------|-----------------------|---|
|  | Indicator 6: Volume of blue dye marketed under international regulations | 0 | 0.032 toneladas | 0,042 ton | 3 Tons | 1.4% | Highly Unsatisfactory | <p>- Hiring the additional test required by the FDA is still pending as Ecoflora does not have sufficient liquidity.</p> <p>- A communication strategy was proposed and designed to promote the consumption of dyes in Colombia.</p> <p>Two short videos have been circulated in social networks and articles on the dye have been published.</p> <p>Papers were written to communicate the results of the project and to position the issue in Colombia:</p> <ul style="list-style-type: none"> <li>• A short video that summarizes the project, with English subtitles.</li> <li>• A video to illustrate the economic flows of access to genetic resources (English version and Spanish version).</li> <li>• 7 micro-stories (in video) to show the life histories of some protagonists of the project and to communicate their results.</li> </ul> <p>- A panel on Access to</p> |
|--|--|---|-----------------|-----------|--------|------|-----------------------|---|

|   |   |   |   |   |   |      |                     |  |
|---|---|---|---|---|---|------|---------------------|--|
|   |   |   |   |   |   |      |                     | Genetic Resources and Equitable Benefit Sharing was organized in the context of the Congress that Biointropic did as part of the Bionovo Fair, in Corferias (Bogotá) on October 6. The panel was moderated by Carolina Urrutia (Director of Semana Sostenible Magazine) and the panelists were Santiago Carrizosa (GEF), Nicolás Cock (Ecoflora), Carlos Ospina (MADS) and Gustavo González (National University). The panel discussed the realities and challenges of the ABS in Colombia; from the academic, commercial, and institutional perspectives, and complementing it with an international look. The case study was distributed to panelists. |
| <b>Outcome 3:</b> Access and benefit-sharing agreements | <b>Indicator 7:</b> Signed agreement providing access to genetic resources for commercial purposes and including a benefit-sharing scheme, in place and operating | 0 | 1 | 1 | 1 | 100% | Highly Satisfactory | This target was achieved in 2014   |

|   |  |       |   |       |              |      |                       |  |
|---|--|-------|---|-------|--------------|------|-----------------------|--|
|   | <b>Indicator 8:</b> Public presentation of the progress in benefit-sharing and distribution indicators   | 0     | 1 | 1     | 3 (1 yearly) | 33%  | Highly Unsatisfactory | The preparation tour for the follow-up meeting of the Prior Consultation for the fourth quarter of 2016 will not take place.   |
| <b>Outcome 4:</b><br>Enhanced national and regional capacity in access and benefit-sharing through negotiation and monitoring of agreements | <b>Indicator 9:</b> Draft decree or resolution for monetary benefit-sharing among users and providers of genetic resources                                     | 0     | 0 | 100%  | 1            | 100% | Highly Satisfactory   | The final version of the normative proposal and the accompanying reports were approved. The contract with the consultants was finalized. The MADS approved the products. The Departments of Forests and Green Business are currently reviewing them to possibly adapt them.  |
|   | <b>Indicator 10:</b> Capacity of MADS in access to genetic resources and monetary benefit-sharing, in accordance with the UNDP ABS Capacity-Building scorecard | 31/75 |   | 39/75 | 40/75        |      | Highly Satisfactory   | <p>The MADS is close to meet the initially expected result.</p> <ul style="list-style-type: none"> <li>- The MADS manual on ABS was printed and distributed among participants at the Fair Bionovo and other venues.</li> <li>- Two workshops were held with public officials to train them on AGR; The first was held in July in Medellín, the second was held in August in Bogotá.</li> <li>- An e-learning course was started to train public officials on ARGs.</li> </ul> |



#### 4. Findings

After completion of the documentary review on September 30, 2016 and the analysis of the interviews carried out during the project Terminal Evaluation, it is possible to assert:

1. Adjusting the final target of the project indicator “Number of hectares of forest in the biogeographical Chocó that are under sustainable management due to proper exploitation of *Genipa americana* for dye production” was decisive to avoid a major impact at project closure. The initial target was 750 forest hectares and this target was reduced to 500 hectares due to the fact that the permits from the regional environmental authority – Codechocó – were approved at the end of the project. Even with the installed capacity in the communities in charge of conducting the harvest, it would have been impossible to meet the original target

By September 30, 2016, a total of 430 hectares were already harvested and this number is not likely to increase before the end of the project; basically because there is no demand for jagua from Ecoflora Cares, as it was explained in section 3.2 Results Progress Analysis.

2. This project design built on previous community experiences associated with the sustainable use and use of non-timber natural resources. Some of the participating partners (Fundación Espave and the company Bosque Húmedo Biodiverso) left the project during the second year of the project execution. A new private company called Planeta was created, made up of local investors, who assumed BHB responsibilities and tasks. . What was valuable and remarkable was the commitment of the community to assume the obligations of the project and to design a business of a commercial type that generated the necessary tools to be able to develop initiatives associated with the use and commercialization of non-timber products.

Fondo Acción played an important role in the implementation of the project from the moment it took over the tasks and responsibilities assigned to Foundation Espavé which left the project.. It is important to note that Fondo Acción strengthened the operational and administrative capacity of the community-based company “Planeta” which replaced BHB and Fundación Espave..

3. Since Ecoflora had difficulties to pay for the technical tests and additional studies in order to obtain FDA and EFSA permits for the marketing of the dye in the US and Europe, this company encouraged the Fondo Acción, Planeta and Cocomacia to continue supporting the production and marketing of non-timber products to sustain the livelihoods of local communities. This led to a stronger presence and capacity to negotiate with other potential buyers of products such as palmito and Naidi (Azai). As a result, they began to participate in other spaces (fairs and business rounds) to get other buyers and thus to give stability to the members of the community who were participating.

4. The fact that a private company recognizes the role of a community within a bio-trade value chain that seeks to generate technologies for the world through the production of blue dye for the food,

cosmetic and pharmaceutical industries is a positive indicator of impact. Also, to recognize that having an appropriate institutional framework is what makes the difference between success and failure is a lesson for any project, especially non-timber products due to the lack of regulation that still exists in the country.

5. Transparent action contributes to building trust among all actors in a value chain; the latter being a process that takes time but guarantees stability and sustainability in the long term. Likewise, the fact that all participants recognize the importance of their role and performance in the project generates stability.

6. The new look of the forest by the communities as a possibility of long-term development allows new bets for the region.

7. The project has been a reference for other initiatives in Latin America, since it has fully complied with each of the requirements of the formation of a biotrade project that allows the transformation of a biological resource into a value-added ABS product.

8. It is important that the issue of access to genetic resources in the Ministry of the Environment should not be viewed as a way of negotiating and signing a contract, but rather that it can continue to generate capacity, guidelines, instruments and transparent conditions that allow genetic resources to become a real opportunity for development.

## Results Analysis

### **Design**

The project design built on previous local capacities of a particular community with experience in entrepreneurship in non-timber products. This allowed to rapidly capitalizing on the confidence built between members of the community. It is with project implementation that various stakeholders begin to participate and bring complexities to the execution of the project. The project is formulated in a romantic way and on processes that are under construction. By doing a revision of the goals, a great number of achieved results can be associated with impact indicators, even when it is a project with a short timeframe that deals with a particular subject that the country has not yet solved in the last 20 years.

Defining goals of a project where there is a high interdependence from one goal to another is a domino effect when one of the goals is not possible to meet. This is the case of the sale of tons of fruit, with the economic benefits received and the international market pulling the whole process.

### **Project Execution**

To maintain the communication and the joint workspaces between the different stakeholders is one of the main challenges of these projects. Governance bodies do serve the purpose of directing the



project outcomes. Having the support of all parties involved and building trust among them is certainly a valuable asset. Fondo Acción fully complied with this premise and there are records of efforts to maintain the cohesion among all stakeholders.

## **Project Results**

In a numerical analysis of the results of the project the conclusion is that its performance is moderately satisfactory, above 60%. This would be assuming that the achievements are only limited to the results matrix. However, it should be noted that other co-benefits were generated that were not measured in the project (see Table 2-Evaluation Rating). However, the interviews allow us to affirm the good level of empowerment and confidence that was generated in the communities and the high possibilities of continuing not only with the commercialization of jagua fruit but also with other non-timber products (mil pesos, naidí, and palmito), as well as continuing making efforts to advance in the value chain and not be only suppliers of raw material.

In the case of Planeta, having been able to create a community-based commercial enterprise where Cocomacia (i.e., owner of the area and holder of the Jagua's use permits) actively participates assures that there will be more families benefiting from the commercialization of non-timber products.

In the case of Ecoflora Cares, had this company not participated in the project, it scientists would have not develop cutting-edge technology to reach the industrial production level of the dye. . Today, Ecoflora Cares has become the reference not only for Colombia but for some countries in Latin America on how a private company can participate and improve its scientific capacity through an ABS project. They have the recognition of being one of the few companies that managed to sign a contract for access to genetic resources with commercial purposes in 20 years in Colombia. Ecoflora, however, still needs to complete the scientific tests required by the FDA in order to deliver economic benefits to the state by 2018. .

Fondo Acción, having assumed a more proactive role associated with capacity building within a non-timber value chain, has acted as facilitator between community initiatives and purchasers / processors of raw material for the aggregation of value to Biodiversity. This extremely gratifying.

Through project implementation, MADS had the opportunity to learn about the business side of an ABS initiative, to participate in high-level international discussions, to be a reference for normative instruments, and to have a clear road map to take advantage of the benefits offered by biodiversity and particularly genetic resources as a real opportunity for development.

MADS Institutional strengthening is evident. Examples of such strengthening are: the development of a legal instrument associated with the distribution of monetary and non-monetary benefits derived from access to genetic resources and their derived products; the manual on AGR and distribution of benefits; and the virtual training modules (e-learning) that will allow reaching many officials and entities of the National Environmental System. With regard to the ratification of the

Nagoya Protocol, efforts continue to be made by the MADS to the Foreign Ministry to ensure that the necessary legislative process for its ratification be completed.

#### 4.1. Assumptions and Risks

To the extent that this project was built on a previous initiative and has contributed to consolidate the possibility of generating and distributing benefits among the different actors involved (from the local to the national); activities are likely to continue not only because there are authorities involved responsible to ensuring that the agreements are met, and to be the creditors of monetary and non-monetary benefits after the project is completed. As long as the jagua fruit continues to be used as the raw material for the production of the blue dye, there will continue to be benefits for all parties involved. The following table lists the risks, their status and the proposed management actions to mitigate them. It was built by the project coordination and complemented during this evaluation responding to the technical report of the third quarter of 2016.

**Table 7. Risk log**

| Risk type | Description   | New<br>(Yes /<br>No) | Critical<br>(Yes) | Current<br>(Yes/<br>No) | Stauts/Management Response  |
|-----------|---|----------------------|-------------------|-------------------------|---|
| Political | Uncertainty over policy changes for access to genetic resources due to changing administrations | No                   | No                | No                      | <p><b>Risk Status:</b> The risk is no longer current because the government has been facilitating access to genetic resources (AGR).</p> <p><b>Management Actions Implemented:</b> MADS has an AGR work group, conditions have been clarified regarding the type of basic investigation needed for AGR agreements, two decrees were published in 2013 and one resolution was published in 2014 to clarify the issue, the response time for applications has been significantly reduced (only 13 remain to be resolved out of 205 applications). Partnerships have also been formed with Colciencias and the Superintendency of Industry and Commerce so they can ask for MADS' opinion on whether or not an AGR agreement is needed for research projects or patent registration.</p> |

| Risk type     | Description  | New<br>(Yes / No) | Critical<br>(Yeso) | Current<br>(Yes/ No) | Stauts/Management Response  |
|---------------|--|-------------------|--------------------|----------------------|---|
|               | Resistance to the project by local communities       | No                | No                 | Yes                  | <p><b>Risk Status:</b> The communities are in favor of the project and see the supply of jagua as a positive income option. However, if the demand for jagua decreases, their favorability towards the initiative could change, jaguar sales do not continue. During the technical assistance field visits, each community received first-hand information regarding progress made as well as the difficulties faced in the jagua process. Some communities expressed their understanding of shortage in jagua demand.</p> <p><b>Management Actions Implemented:</b> Support to the Cocomacia zonal meetings and communication of the project to the local community councils, promoting participation strategies that allow the communities to understand their role and the potential benefits of the project. In some communities they said that much of the crops have already been lost.</p> |
| Environmental | Potential negative impact of harvests on jagua trees | No                | No                 | No                   | <p><b>Risk Status:</b> The report resulting from the preliminary analysis of the potential negative impact of harvesting on the trees and submitted by Cocomacia states: <i>"have identified different causes that can lead to the involvement of trees and therefore jagua crops: environmental conditions of the area, pollution of the Atrato's river, biologically own characteristics and ecological.</i></p> <p><i>(...) However, as a precautionary measure, disinfection of the cutting tools (trimmers or branch cutters) should be included in the harvest protocol, especially to eliminate and serve as a means of keeping the effects of death from being attributed</i></p>   |

| Risk type      | Description  | New<br>(Yes / No) | Critical<br>(Yes) | Current<br>(Yes/ No) | Stauts/Management Response  |
|----------------|--|-------------------|-------------------|----------------------|---|
|                |  |                   |                   |                      | <p>to the actions of harvesting, as occurs with some landowners.”</p> <p><b>Management Actions Implemented:</b><br/>           With the incorporation of the new marketer (Planeta), the responsibility of including disinfection of tools in the harvesting protocol was renewed. In addition, a technical phytosanitary study for harvesting was hired. The company in charge (CIB) visited Vigia del Fuerte in early September, took samples which are currently being analyzed. Report is due in December.</p>  |
| Organizational | The new local marketing platform is not able to be consolidated. | No                | Yes               | Yes                  | <p><b>Risk Status:</b> The new local marketer was created and it assumed the role of BHB in the project. The new structure is headed by the legal representative of BHB, which will guarantee continuity in the process. It also has the participation of other local partners.</p> <p><b>Management Actions Implemented:</b><br/>           Close follow-up of Fondo Acción to the local actors to support the creation of the new marketer. After the specialized consultancy hired in 2015 by Fondo Acción, this year several training processes have been carried out by the members of Planeta. Training was given by the Action Fund in administrative and accounting matters, two additional were contracted with resources of the project and offered by Microempresas de Colombia. A third training, in charge of Interactuar, was given in September in logistics and commercial negotiation. This company also gave advice to Planeta in basic legal and tax aspects and payroll management based on the current regulation. In addition, in 2016 the project is</p> |

| Risk type   | Description   | New<br>(Yes /<br>No) | Critical<br>(Yes) | Current<br>(Yes/<br>No) | Stauts/Management Response  |
|-------------|---|----------------------|-------------------|-------------------------|---|
|             |   |                      |                   |                         | investing resources to leverage the operation of the marketer during its first year, contracted a commercial advisory through four business appointments have been achieved, one of which promises purchases that could guarantee the break-even point of the company next year. Finally, the project had a booth in Bionovo that was taken care of by Planeta, which allowed it to make new contacts (commercial and international cooperation).   |
| Operational | Setbacks in the design of equipment and construction of the production infrastructure         | No                   | No                | No                      | <b>Risk Status:</b> Plant facility construction finished.<br><b>Management Actions Implemented:</b> Purchase and installation of equipment in plant facility.   |
|             | The conditions demanded by Codechocó make operation of the initiative unfeasible in the Chocó | No                   | Yes               | Yes                     | <b>Risk Status:</b> Codechocó granted the exploitation permit; However, close monitoring should be carried out as the permit conditions are quite demanding and there is no risk of default. In addition, the first transportation permit issued by the entity indicates that the conditions could make the initiative unfeasible; In the first place, due to the delay in issuing the permit, but especially because of its high cost (15% of the market value of the fruit being mobilized).<br><b>Management Actions Implemented:</b> A formal inquiry was made to Codechocó to understand how the safe-conduct was being collected and the project was made available to review this and the delays in its expedition. Codechocó responded by stating that by Resolution they have to charge a fare of 15% on the market value of the fruit. We requested MADS support to |

| Risk type  | Description  | New<br>(Yes / No) | Critical<br>(Yeso) | Current<br>(Yes/ No) | Stauts/Management Response   |
|------------|--|-------------------|--------------------|----------------------|--|
|            |  |                   |                    |                      | review the case and to ensure that market conditions are guaranteed so that the initiative does not become unfeasible. A MADS official met with the Director of Codechocó and is studying the issue to solve it. In the two harvests of the year, parcels in the Choco department were not included to avoid problems of costs and time. The project will send a letter to the Minister requesting his support.  |
|            | The relationship between the local marketer and Ecoflora has worked, although trust bonds have not been very strong; however, if the relationship is not reinforced it might be broken in the medium or long term. | No                | Yes                | Yes                  | <p><b>Risk Status:</b> The relationship between local actors in charge of marketing and Ecoflora has had ups and downs. Even so, communication has always been maintained. It is expected that the new marketing initiative and Ecoflora will begin to slowly rebuild trust ties. A negotiation of prices and volumes of jagua was achieved; but purchases are inactive due to financial difficulties of Ecoflora. This may jeopardize the continuity of the marketer.</p> <p><b>Management Actions Implemented:</b> In July 2015, Fondo Acción held a conflict management workshop among business partners. Project coordination has closely monitored price negotiations. The project itself acted as a facilitator among the trading partners, favoring the exchange of information and encouraging the strengthening of the commercially weaker part. In fact, the price agreement reached was achieved thanks to the intermediation of the project.</p> |
| Regulatory | Approval times for permits to market products in other   | No                | Yes                | Yes                  | <p><b>Risk Status:</b> The paperwork has progressed well, the test results were positive, but the FDA made an additional requirement for a new 12-</p>   |

| Risk type | Description   | New<br>(Yes / No) | Critical<br>(Yes) | Current<br>(Yes/ No) | Stauts/Management Response   |
|-----------|---|-------------------|-------------------|----------------------|--|
|           | countries have been longer than foreseen, as additional requirements have been made throughout the process (primarily in the U.S.). |                   |                   |                      | <p>month chronic test to further assess the toxicological potential of the dye. The test will take about 18 months once it is contracted; Ecoflora has not been able to contract yet due to the financial difficulties it is experiencing. Due to this situation it is already possible to conclude that at the end of the project the FDA will not give the approval of the dye</p> <p><b>Management Actions Implemented:</b><br/> The tests have been done in a way that will serve all regulatory processes (FDA in the USA, EFSA in Europe, ANVISA in Brazil, CODEX / JECFA for the rest of the world). Ecoflora received the result of the CACO2 Test by GC / MS method where the absorption of the dye is discarded, which is a positive result. It contracted an additional CACO2 test by UV / VIS method to have more solid bases and definitively demonstrate the non-absorption of the dye; The results report a very low absorption of the dye, which is a positive result.</p> <p>Satisfactory results from the 90-day chronic test were also received. However, the FDA made a new 12-month chronic test requirement to further assess the toxicological potential. The test will take about 18 months once it is hired.</p> <p>Meanwhile it is sought to increase sales of the dye in Colombia where it is already allowed to do so. In addition, Ecoflora is seeking to register the colorant in CODEX / JECFA, which would allow it to be marketed in the rest of the world.</p> |

| Risk type        | Description   | New<br>(Yes / No) | Critical<br>(Yeso) | Current<br>(Yes/ No) | Stauts/Management Response   |
|------------------|---|-------------------|--------------------|----------------------|--|
| Strategic        | Non-fulfillment of the goals of fruit purchase and sale of dye for the lack of permission to market the dye in USA and EU | Yes               | Yes                | Yes                  | <p><b>Risk Status:</b> Due to the fact that the regulatory times to obtain the permit to commercialize the dye in the US and EU have been revealed to be longer than expected, and that the sale of colorants in Colombia has not taken off, Ecoflora is in a difficult financial situation. This temporarily prevents him from buying jagua in the Middle Atrato. This means that the goals related to the purchase of fruit, as well as the goal of selling dye, will not be met. This can lead to mistrust in the community towards the project.</p> <p><b>Management Actions Implemented:</b> Solving the regulatory bottleneck with respect to the granting of sanitary permits to commercialize the dye is outside the scope of the project; The focus is then on supporting the strengthening of the local marketing platform, so that it can be able to sell to other customers and continue to exist as a local enterprise.</p> |
| External Factors | Climate Change  | Yes               | No                 | Yes                  | Fruit mobilization across the Atrato River is seriously affected by drastic river level changes, limiting and generating additional costs in the production chain.   |
|                  | Illegal mining  | Yes               | Yes                | Yes                  | The mercury contamination of the Atrato river is high and growing because an increase in illegal mining activity, which jeopardizes the production of jagua since the fruit has already presented traces of mercury, and this would make this productive chain unfeasible.   |

#### 4.2. Lessons from other relevant projects



This project has participated in the workshops organized by the GEF project entitled "Conservation of biodiversity in areas affected by mining in the Chocó Biogeographic region", where they have made joint approaches to Codechocó requesting the formula to calculate the permit for mobilizing Non-timber forest products.

They have also participated in workshops with environmental authorities to provide elements for the regulation of non-timber products and the National BioTrade Plan.

### Stakeholder Engagement

The different project stakeholders have clearly defined roles and responsibilities and recognize their interdependence, which engenders collective construction and shared responsibility.

In addition, since this project reinforces earlier community processes, it is able to reaffirm both commitment and trust among jagua producers, harvesters, marketers, and processors.

The role and participation in the project of local and regional authorities is not as evident, though they are aware of it, and could participate more actively in following up on lessons learned in terms of being able to replicate the community collective construction processes.

The national authority, MADS, is extremely interested in seeing the project achieve its proposed outcomes, since this project will serve as a guide for new ones involving the sharing of benefits arising from the use of biodiversity.

### Adaptive management

Half way through project implementation, the need to adjust the targets was identified. In fact, both local market conditions as well as additional tests required by the FDA and EFSA for advancing in product registration had not been previously considered. This moment showed that it would not be possible to meet the goal originally defined in the project.

As international purchases of the blue colorant were the main driver of the rest of the project results, the purchase prices of the fruit had to be adjusted.

On the other hand, the jagua exploitation permit granted by Codechocó was only issued at the end of 2015 and it was not possible to harvest all the fruit that was available, because despite having the installed capacity, the work areas exceeded the workforce Qualified in the community.

It is not possible to say that the changes in these results were considerable, but at the time they were significant for the project since it was a decision that was undermining the trust process among the project partners.

These changes were discussed in the technical committee and presented to the steering committee that in turn made the formal consultation with the GEF, after adjusting the results.

#### Feedback from M&E activities for adaptive management

Changes in the project were included in the results framework at the time of approval and continued to be monitored and reported by project coordination in quarterly reports and committees.

#### **4.3. Project Financing and Co-financing:**

The following table summarizes the Cofinancing of the project, which includes the commitments and contributions in cash and in kind of the project:

**Table 8. Co-financing Summary**

| Total*   | 2014                   | 2015                     | 2016                    | TOTALES         |     |
|--|------------------------|--------------------------|-------------------------|-----------------|-----|
| Total Commitment USD                                   | \$650.869              | \$687.378                | \$678.856               | \$2.017.102     | USD |
| Total Commitment COP\$                                 | \$1.171.563.600        | \$1.563.783.939          | \$1.934.739.600         | \$4.670.087.139 | COP |
| Total Financing COP\$                                  | \$3.027.200.241        | \$2.262.999.081          | \$219.868.500           | \$5.510.067.822 | COP |
| <b>Delivey<br/>(total financing-<br/>Commitments)*</b> | <b>\$1.855.636.641</b> | <b>\$2.554.851.783**</b> | <b>\$839.980.683 **</b> |                 | COP |

In blue is shown available budget at the end of the year (Total financing minus total commitments)

\*\* Delivery includes available budget from previous year (carry-on) plus budget of current year minus total commitments.

The project is being co-financed jointly by the private sector (Ecoflora and Bosque Húmedo Biodiverso/Planeta), national non-governmental organizations (Fondo para la Acción Ambiental y la Niñez and Fundación Espavé) and the Colombian government. These partners contributed with cash and in-kind contributions of USD 2,017,102, equivalent to \$5.510.067.822<sup>1</sup>. The additional funding provided by GEF of USD 980,000 is complementary to the investment for achieving project objectives.

It should be noted that the contributions have been made mostly in cash, which exceeds by 293% the estimated contributions for the execution of the project. In contrast to the contributions in kind, which were 56.6% of what was committed for the execution of the project. However, in reviewing all the resources (in cash and species) certificates invested in the project, these exceeded by 84.75% the resources committed to the signature of ProDoc.

<sup>1</sup> UNDP exchange rate: 2014 \$1.800, 2015 \$2.275 and 2016 \$2.850

Below are the cofinancing tables of the project in committed cash and species and those actually invested during the years of execution.

**Table 9. Commitments and cash contributions during project execution**

|                         | 2014                 | 2015                 | 2016                 | TOTALES              |            |
|-------------------------|----------------------|----------------------|----------------------|----------------------|------------|
| COP/USD                 | 1.800                | 2.275                | 2.850                |                      |            |
| <b>Commitment USD\$</b> | <b>145.591</b>       | <b>196.005</b>       | <b>138.034</b>       | <b>479.630</b>       | <b>USD</b> |
| Ecoflora                | 67.108               | 77.162               | 98.216               | 242.486              | USD        |
| MADS                    | -                    | -                    | -                    | -                    | USD        |
| Local                   | 36.816               | 38.288               | 39.818               | 114.922              | USD        |
| Espavé                  | 41.667               | 80.555               | -                    | 122.222              | USD        |
| <b>Commitment COP\$</b> | <b>262.063.486</b>   | <b>445.911.744</b>   | <b>393.397.516</b>   | <b>1.101.372.746</b> | <b>COP</b> |
| Ecoflora                | 120.794.686          | 175.543.919          | 279.916.216          | 576.254.821          | COP        |
| MADS                    | -                    | -                    | -                    | -                    | COP        |
| Local                   | 66.268.800           | 87.105.200           | 113.481.300          | 266.855.300          | COP        |
| Espavé                  | 75.000.000           | 183.262.625          | -                    | 258.262.625          | COP        |
|                         |                      |                      |                      |                      |            |
| <b>Co-financing</b>     | <b>1.519.873.508</b> | <b>1.600.805.225</b> | <b>110.000.000</b>   | <b>3.230.678.733</b> | <b>COP</b> |
| Ecoflora                | 1.283.670.105        | 1.536.539.317        | 110.000.000          | 2.930.209.422        | COP        |
| MADS                    | 150.000.000          | 8.000.000            |                      | 158.000.000          | COP        |
| Local                   | 47.733.942           |                      | -                    | 47.733.942           | COP        |
| FA                      | 38.469.461           | 56.265.908           |                      | 94.735.369           | COP        |
|                         |                      |                      |                      |                      |            |
| <b>Delivery</b>         | <b>1.257.810.022</b> | <b>2.412.703.503</b> | <b>2.129.305.987</b> |                      | <b>COP</b> |

In blue is shown available budget at the end of the year (Total financing minus total commitments)

\*\* Delivery includes available budget from previous year (carry-on) plus budget of current year minus total commitments.

**Table 9. Commitments and in-kind co-financing during project implementation**

|                         | 2014               | 2015               | 2016               | TOTAL                |            |
|-------------------------|--------------------|--------------------|--------------------|----------------------|------------|
| COP/USD                 | 1.800              | 2.275              | 2.850              |                      |            |
| <b>Commitment USD\$</b> | <b>145.591</b>     | <b>196.005</b>     | <b>138.034</b>     | <b>479.630</b>       | <b>USD</b> |
| Ecoflora                | 67.108             | 77.162             | 98.216             | 242.486              | USD        |
| MADS                    | -                  | -                  | -                  | -                    | USD        |
| Local                   | 36.816             | 38.288             | 39.818             | 114.922              | USD        |
| Espavé                  | 41.667             | 80.555             | -                  | 122.222              | USD        |
| <b>Commitment COP\$</b> | <b>262.063.486</b> | <b>445.911.744</b> | <b>393.397.516</b> | <b>1.101.372.746</b> | <b>COP</b> |
| Ecoflora                | 120.794.686        | 175.543.919        | 279.916.216        | 576.254.821          | COP        |
| MADS                    | -                  | -                  | -                  | -                    | COP        |

|                     |                      |                      |                      |                      |            |
|---------------------|----------------------|----------------------|----------------------|----------------------|------------|
| Local               | -<br>66.268.800      | 87.105.200           | 113.481.300          | 266.855.300          | COP        |
| Espavé              | 75.000.000           | 183.262.625          | -                    | 258.262.625          | COP        |
|                     |                      |                      |                      |                      |            |
| <b>Co-Financing</b> | <b>1.519.873.508</b> | <b>1.600.805.225</b> | <b>110.000.000</b>   | <b>3.230.678.733</b> | <b>COP</b> |
| Ecoflora            | 1.283.670.105        | 1.536.539.317        | 110.000.000          | 2.930.209.422        | COP        |
| MADS                | 150.000.000          | 8.000.000            | -                    | 158.000.000          | COP        |
| Local               | 47.733.942           | -                    | -                    | 47.733.942           | COP        |
| FA                  | 38.469.461           | 56.265.908           | -                    | 94.735.369           | COP        |
|                     |                      |                      |                      |                      |            |
| <b>Delivery</b>     | <b>1.257.810.022</b> | <b>2.412.703.503</b> | <b>2.129.305.987</b> |                      | <b>COP</b> |

In blue is shown available budget at the end of the year (Total financing minus total commitments)

\*\* Delivery includes available budget from previous year (carry-on) plus budget of current year minus total commitments.

Execution of project resources has been managed transparently, with control exercised using UNDP tools that are also supported by protocols and measures established in Fondo Acción to ensure proper project implementation.

The review of actual contributions showed that investment levels are more than 75% higher than budgeted, which has made it possible to finance additional activities.

It must be noted that Fundación Espavé complied with all its counterpart commitments before withdrawing from the project, and the surpluses presented as the local counterpart have been contributed by Fondo Acción, the project's coordinating entity.

### Monitoring and Evaluation

Several project monitoring systems exist. One is a technical type that enables Ecoflora Cares to track the fruit (jagua) to the tree from which it was extracted. Another is for monitoring the agreements reached in the prior consultations held at the communities, which should be monitored by the Ministry of the Interior and guaranteed by Ecoflora Cares; these are associated with the agreement for access to genetic resources signed with the MADS. This monitoring was handled by Fundación Espavé and was taken over by Fondo Acción when Fundación Espavé withdrew from the project.

In addition, Fondo Acción, in its capacity as project coordinator, monitors the budget for the Annual Operational Plan and its progress reports are made on the results matrix where the indicators defined in the project's log framework are measured. Likewise, the Fund guarantees the control of expenditure in each of the categories established in the Atlas system.

It is possible to affirm that the project responds to the own monitoring systems of the GEF / UNDP projects and that they have an external audit that makes independent evaluations of the project.

The project does not have a monitoring mechanism associated to gender issues, since it is not an element that has been taken into account in the project design.

UNDP assumed the role of Main Provider and Implementing Agency. UNDP, as an implementing agency, has extensive experience working with the Government of Colombia in the area of biodiversity conservation and sustainable use, and is well positioned to assist in institutional strengthening and capacity building. In addition, it carries out both technical and administrative follow-up, including tools such as the tracking tool and the PIR, which were reviewed and approved by the regional office in Panama.

### Project Implementation Arrangements.

Implementation of the activities planned within the framework of the project involves several institutions working in conjunction and under the coordination and supervision of a single executing agency. Fondo Acción is responsible, as executing agency, for coordination of project activities and production of follow-up material. The Ministry of the Environment and Sustainable Development, Ecoflora Cares, Bosque Húmedo Biodiverso (now Planeta), and Fundación Espavé, as strategic partners in the design, conceptual development, and technical implementation of the activities, are co-responsible for their execution.

Project implementation is carried out under the general guidance of a Project Board set up specifically to this end. The Board consists of the following members:

- a) Fondo para la Acción Ambiental y la Niñez (Fondo Acción), as the Executing Agency, which assumes the role of Chairperson (President) of the Project Board. Fondo Acción coordinates the work with other strategic partners collaborating on this project and is the sole administrator.
- b) UNDP, which assumes the role of Primary Provider and Implementing Agency and provides direction for the project's technical feasibility. As implementing agency, the UNDP has ample experience in working with the Colombian government on biodiversity conservation and sustainable use and is well-positioned to help with institutional strengthening and capacity-building.
- c) Ecoflora Cares, the Ministry of the Environment and Sustainable Development, Bosque Húmedo Biodiverso (replaced by Planeta) and COCOMACIA have the roles of main beneficiaries.

The Project Board is the highest body responsible for management decision-making and advisory to the Project Coordinator when guidance is needed, including approval of budget revisions. Project Board Members included: Planeta, Ecoflora Cares, MADS, Fondo Acción and UNDP.

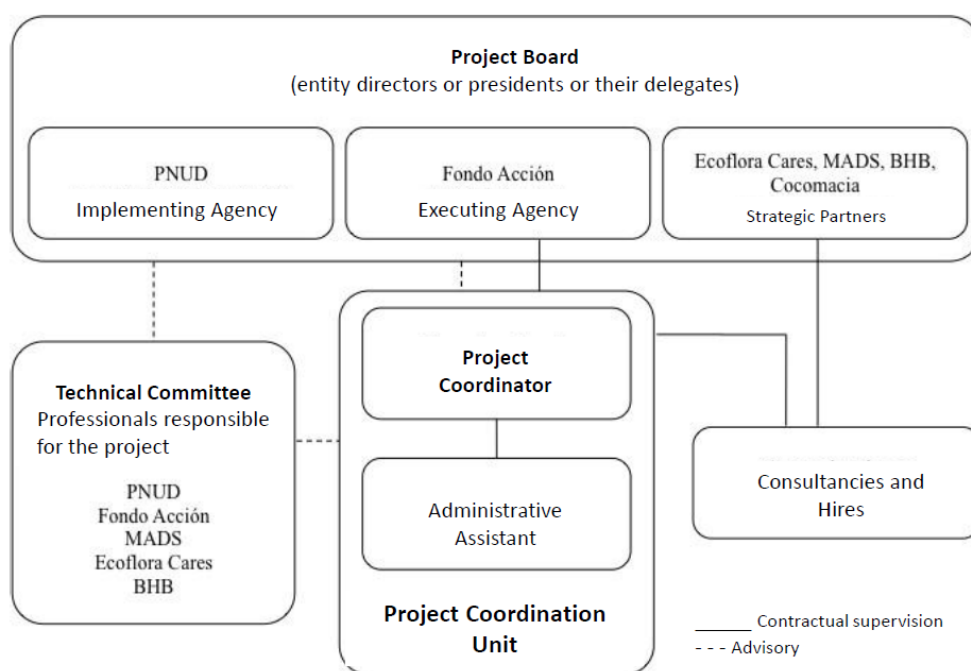
The Ministry of the Environment and Sustainable Development, Ecoflora Cares, Bosque Húmedo Biodiverso (now Planeta), and Fundación Espavé are responsible for supervision and/or implementation of project actions and activities. These strategic partners oversee timely implementation, serve as support to the Project Coordinator, and follow Project Board recommendations. They must also report to Fondo Acción, through the Project Coordination Unit,

on technical and financial execution as established in the interinstitutional agreements.

Project activities are directly implemented through the Project Coordination Unit, which will be physically located in Bogotá and/or Medellín, Colombia. The Project Coordinator is responsible for supervising this unit.

Since the project has two levels of intervention, other entities are needed for its implementation and development, so institutional cooperation agreements should be drawn up. Along this line, Fondo Acción is the entity responsible for coordinating the actions and activities included in components 1, 2, and 4 and the project stakeholder involvement plan with the strategic partners, the Ministry of the Environment and Sustainable Development, Ecoflora Cares, Bosque Húmedo Biodiverso (replaced by Planeta), and Fundación Espavé (which withdrew from the project in 2015). In addition to the strategic partners, which are responsible for the various activities and outcomes, the project's regular operation entails the ongoing involvement of COCOMACIA as owner of the land and its biological resources. Strategic partnerships could also be developed with regional environmental authorities, community councils and indigenous reserves.

**Figure 3: Project Board Scheme**



The support provided by the UNDP team was fundamental in coordinating the meetings with the

different project actors and there was always availability for each of the questions that emerged during the evaluation time.

Project management mechanisms were clearly structured starting from the design level. There is a clear chain of command that is respected, and at the same time different project members work as a team with specific roles and responsibilities. Decisions are taken by consensus.

After reviewing the documents in particular, the quarterly reports are organized, methodical, clear and concise, and maintain the same form of report which facilitates evidence of progress. Also, difficulties during Project implementation are clearly presented.

There is a clear respect among the different institutions linked to the project, where public institutions are operating, such as the Ministry of the Environment down to local communities. The level of commitment of each of these institutions regarding the project varies depending on the role they play. The Autonomous Regional Corporation of Chocó -Codecoco- showed the least commitment, since the permits of exploitation took almost two years to be issued. Despite that, the coordination of the project had already opted for a strategy to be able to achieve the goals (adjusted by the Steering Committee) through the extension of the permit with Corpourabá.

The national government is a key player in the project as it seeks to strengthen capacity in issues of access and benefit sharing, through negotiation and monitoring of ARG agreements.

## 5. Project Results

| Criteria   | Rating | Score | Comments   |
|--|--------|-------|--|
| <b>Monitoring and Evaluation (M&amp;E):</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU)                                       |        |       |  |
| Overall Quality of M&E   | HS     | 6     | The project had an adequate follow-up and decisions were taken in a timely manner. This is evident in the minutes of the steering committee of June 2016, where the goals were adjusted according to the results and recommendations of the mid-term evaluation.       |
| M&E design at the beginning of the project   | HS     | 6     | M&E Design was adequate since the beginning of the project. The project monitoring and control chart (COL87797 product verification) was used in all project implementation years and the information is consistent with the progress reports of the quarterly reports |
| M&E plan implementation  | HS     | 6     | It met the expectations defined from the design  |
| <b>Implementing partner and Executing Agency Execution (IA&amp;EA Execution):</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU) |        |       |  |

|  |  |              |   |
|--|--|--------------|---|
| Overall quality of project execution   | S  | 5            | Project failed to meet all targets, even though they were adjusted after Mid-Term Review. Of the 10 goals defined in the project results, 50% were met, and the other 50% partially met.  |
| Implementing Agency execution  | HS   | 6            | In this project, UNDP had a coordination role and was actively engaged in every decision-making instance.   |
| Executing Agency Execution   | S  | 5            | In this case Fondo Acción, as general coordinator of the project, ensured the coherence among components and carried out technical and administrative follow-up.<br>The Ministry of Environment was responsible for Outcomes 3 and 4, and achieved most of the targets.       |
| <b>Results:</b> Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU) |  |              |   |
| Overall quality of project outcomes  | S  | 5            | Although all project goals and targets were not fully met, results obtained are satisfactory and of great importance at regional (subnational) and national level.  |
| Relevance: Relevant (R); Not Relevant (NR)   | R  | 2            | Significant results were obtained (both at the local and national level) and will Foster new interventions.   |
| Effectiveness  | S  | 5            | Relevant materials and tools on ARG were generated and important results for the project were obtained.   |
| Efficiency   | HS   | 6            | The resources allowed achieving the most important expected results. However, not all the results of the project were achieved, since some goals were interrelated: when dye sales were reduced they had an impact on volume of fruit and hectares harvested.                 |
| <b>Sustainability Ratings:</b> Likely (L), Moderately Likely (ML), Moderately Unlikely (ML), Unlikely (UL)).   |  |              |   |
| <b>Risks likely to affect the continuation of project outcomes</b>   | <b>Likelihood of sustainability of outcomes at Project termination</b> | <b>Score</b> | <b>Comments</b>   |
| Financial Risk   | L  | 4            | Investments made ensure sustainability of the project. The creation of Planeta as a community Company marketing non-timber forest product, its strengthening and current installed capacity will allow them to continue marketing jagua and to broaden their sales portfolio. |
| Sociopolitical risks   | L  | 4            | Installed capacity will allow continuity of the initiative, beyond project closure, through   |



|   |           |          |  |
|---|-----------|----------|--|
|   |           |          | Planeta.   |
| Institutional framework and governance risks                | L         | 4        | The goal of designing legal and institutional instruments on Access to Genetic Resources was met, and will facilitate the evaluation of new projects involving AGR. A group of officials and technicians were trained in the negotiating phase of AGR contracts.   |
| Environmental risks   | L         | 4        | Good environmental practices were developed, adopted and encouraged (harvesting the fruit without knocking down the tree, harvesting the fruit at the best timing for dye transformation). The project followed the regulations aimed at reducing or managing environmental impacts (permits for the use of non-timber forest products, and the jagua plantation). |
| <b>Impact:</b> Significant (S); Minimal (M); Negligible (N) |           |          |  |
| Improvement of environmental conditions                     | S         | 3        | The project showed that it is possible to generate benefits from non-timber forest products, opening possibilities for other similar interventions based on other biological resources. The project allowed to developing protocols for managing the jagua plots.  |
| Reduction of environmental stress                           | S         | 3        | The project encouraged other activities different from mining or illegal logging.  |
| Progress towards changing conditions and stress.            | S         | 3        | Trust-building processes were put in place that allowed to moving forward in value chains.   |
| <b>Overall Project Result</b>                               | <b>HS</b> | <b>6</b> | The project was pioneer and it is a pilot case in developing mechanisms for benefit distribution from biodiversity.  |

## 6. Conclusions, lessons learned and recommendations

### Conclusions and lessons learned

- To have been able to adjust the results to the middle of the project (adaptation management) was a wise decision to maintain the confidence between the partners of the project, avoiding to increasing the tension between all those involved in the project.
- Designing a project building upon community experiences quickly allowed results to be scaled so that in the mid-term evaluation the percentage of goals achieved was high.
- Fondo Acción played an important role in the implementation of the project from the moment it took over the tasks and responsibilities assigned to Foundation Espavé after its retirement. By doing this, Fondo Acción assured the continuity of the operational and

administrative strengthening of the Community trading company Planeta (replacement of BHB), activity that was in originally a responsibility of Fundación Espavé.

- Transparent action contributes to building trust among all actors in a value chain; the latter being a process that takes time but guarantees stability and sustainability in the long term.
- The new look of the forest by the communities as a possibility of long-term development allows new bets for the region.
- There are letters of commitment from buyers interested in following the purchase process once the records are ready, which would guarantee the sustainability of the productive chain strengthened by the project.
- Parallel to this project the communities have been working on the diversification of non-timber products and want to be part of these projects.

### Recommendations

- It is recommended for future projects that the goals are not dependent on each other, in order to avoid the domino effect that leads to moderate compliance when there is interdependence and one of the goals cannot be achieved. The specific case is that the goal associated with the sale of blue dye in international markets was directly linked to the sale and delivery of fruit and the number of hectares to be harvested. The lack of records for commercialization of processed product made the other goals impossible to meet.
- Goals should not be formulated solely on the sales of a product because it generates high expectations among the stakeholders. There are other co-benefits that are not measured and that are not valued in the project, and that can be recognized as non-monetary benefits.
- It is important that the issue of ABS in the Ministry of the Environment is not viewed as a way to negotiate and sign a contract; rather than that, it should be perceived as a means to continue to generate capacity, guidelines, instruments and transparent conditions that allow genetic resources to become a real opportunity for development.
- Project Co-financing must be associated with results compliance to avoid over-dimensioning at the time of project design. Local or national investments that are co-financing the project must be realistic so that it is possible to generate additionality and sustainability in the long term.

## **7. Annexes**

- Terms of Reference
- Timeline
- List of interviews
- Field mission report
- List of documents reviewed

